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THE RULE

OF THE

Road at Sea and in Inland Waters;

OR,

STEERING AND SAILING RULES.

[illegible]

COLLISIONS

AND

LAW OF THE PORT HELM.

COLLATED AND ARRANGED, WITH REMARKS,

By Commodore THORNTON A. JENKINS, U. S. Navy,

Chief of Bureau of Navigation, Navy Department.

1868.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1869.

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to the Vice President of the Board of Trade; also Collisions at Sea, Ships' Lights, and the Rule of the Road, with Discussions; and the Regulations for Preventing Collisions at Sea, the Rules concerning Lights, and the Steering and Sailing Rules, with Diagrams."

At about the same period Commanders P. H. Colomb and H. W. Brent, H. B. M. Navy, published "The Law of the Port Helm;" "An Examination into its History and Dangerous Action, with Suggestions for its Abolition," &c.

These two publications, as well as others, including papers of William Sterling Lacon, Esq., on this important and interesting subject, have been largely drawn upon in the preparation of this work. The purpose being to provide, in as compact a form as possible, for the use of seamen in general in this country, and especially of the Navy, all attainable reliable facts and supposed sound arguments bearing upon the subject to guide them in arriving at correct conclusions, and to serve them in the hour of danger or need; no other apology need, therefore, be offered for any want of originality of language or thought that may appear.

It will be observed that the "Regulations for Preventing Collisions at Sea," issued in pursuance of the British Merchant Shipping Act, Amendment Act of 1862, and which were adopted by act of Congress, approved 29th of April, 1864, have been slightly altered in phraseology by order in Council, dated January 9, 1863, (see Notes to Articles 2, 6, and 7,) and by order in Council, dated August 4, 1868, (London Gazette,) Articles 11 and 13 are explained. This latter order in Council being, as will be remarked, of a date subsequent to the papers and discussions above referred to, with the exception of the last paper, by T. Gray, Esq., (Secretary to the Marine Department of the British Board of Trade, issued by authority September, 1868.)

RULES OF THE ROAD;

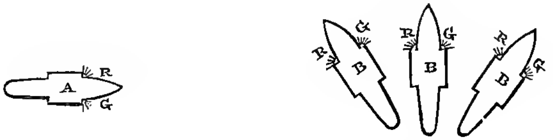
OR,

LAWS OF PASSING VESSELS.

On the 30th of October, 1840, the Trinity House (London) issued, by authority, Rules having reference to Sailing as well as Steam Vessels, which had become necessary in consequence of the great increase in the number of steamers and sailing vessels on the ocean and in the rivers and inland waters of Europe and America.

On the 30th of June, 1848, the Lords of the British Admiralty issued their orders in regard to lights for steamers to prevent collision, which were accompanied by the following diagrams designed to illustrate the working of the system. The letter R signifies a red light and the letter G a green one:

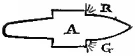
FIRST SITUATION.

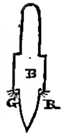


In this situation the Steamer A will only see the *red light* of the Vessel B, in whichsoever of the three positions the latter may happen to be, because the *green* light will be hidden from view. A will be assured that the *port* side of B is towards him, and that the latter is, therefore, crossing the bows of A in *some direction to Port.* A will, therefore, (if so close as to fear collision) *port* his helm with confidence, and pass clear. On the other hand, the Vessel B, in either of the three positions, will observe the *red*, *green*, and mast-head lights of A in a triangular form, by which the Vessel B will know that a Steamer is approaching *directly* towards him—B will act accordingly.

It is scarcely necessary to remark that the *mast-head* light will always be visible in all directions *except abaft the beam* of the vessel carrying it.

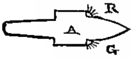
Second Situation.

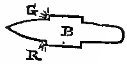




Here A will see B's *green* light only, which will clearly indicate to A that B is crossing to starboard. Again, A's *three* lights being visible to B, will apprise B that a Steamer is steering *directly* towards him.

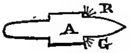
Third Situation.

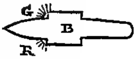




A and B will see each other's *red* light only, the screens preventing the *green* lights from being seen. Both vessels are evidently passing to *Port.*

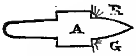
Fourth Situation.

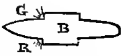




Here a *green* light only will be visible to each vessel, the screens preventing the *red* lights from being seen. The vessels are, therefore, passing to *Starboard.*

Fifth Situation.





Here the two colored lights visible to each vessel will indicate their *direct* approach towards each other. In this situation BOTH SHOULD PUT THEIR HELMS TO PORT. This rule is already pretty generally adopted, but it is made *imperative*, and is in all cases to be strictly observed.

The Lords Commissioners of the Admiralty are further pleased to direct that the recognized Trinity-House Rules, that all vessels should keep their course, are to be acted on, except where there is danger of collision, and in that case each vessel should invariably put her helm a-port.

The manner of fixing the colored lights should be particularly attended to. They would require to be fitted each with a *screen* of wood on the *inboard* side, in order to prevent *both* being seen at the same moment from any direction but that of *right-ahead.*

This is important, for without the *screens* (a principle first introduced with this system) any plan of bow lights would be ineffective as a means of indicating the *direction in which a steamer may be steering.*

This will be readily understood by a reference to the foregoing illustrations, where it will appear evident that in any situation in which two vessels may approach each other in the dark, the colored lights will instantly indicate to both *the relative course of each*—that is, each will know whether the other is approaching *directly* or *crossing her bows*, either to *starboard* or to *port*. This information is all that is required to enable vessels to pass each other freely in the darkest night, with almost equal safety as in broad day, and for the want of which so many lamentable accidents have occurred.

If at anchor, all vessels, without distinction, are bound to display a common light.

The governments of the principal foreign maritime nations have likewise adopted the above system of night lights; amongst which the Government of the United States has issued the following:

"NOTICE TO MARINERS.

"The subjoined instructions are forwarded from the Navy Department. That all United States steamers will carry the following lights when at sea during the night, viz:

"A white light at the foremast head, a green light on the starboard paddle box, and a red light on the port paddle box." [The diagrams and explanations of the British Admiralty were appended to this notice.]

On the 14th of February, 1852, the Lords Commissioners of the British Admiralty issued instructions under the authority of an act of Parliament, dated August 7, 1851, to a committee composed of officers of the Royal Navy and an Elder Brother of the Trinity House to inquire into the expediency of compelling sailing vessels to exhibit lights at night with the view to prevent collision.

On the 12th of June, 1852, the Admiralty issued a notice respecting lights to be carried by seagoing vessels to prevent collisions.

By the British Merchant Shipping Act of 1854, it was ordered that the rules therein provided for in regard to lights, fog-signals, &c., shall be issued on the 1st day of June, 1863, or later, but the articles (sec. 295—299) were repealed and the rules embraced in "Schedule Table C, Merchant Shipping Act, Amendment Act of 1862," adopted in their stead.

Congress passed an act, approved April 29, 1864, legalizing in the United States the British Rule of the Road; or, the Steering and Sailing Rules, embraced in Schedule C of that act. This law embracing these rules is now the recognized Rule of the Road throughout the commercial world. That these rules should not satisfy everybody, was naturally to be supposed, but in such a grave matter as the great loss of life and property at sea by collision, or otherwise, every fact, argument, and opinion, should be well considered before enacting obligatory rules or laws on the subject, or repealing or modifying those with which seamen are most familiar.

The British Order in Council, explanatory of Articles 11 and 13, will, doubtless, remove some of the difficulties which it is alleged have hitherto stood in the way of a fair and reasonable construction of the rule where two vessels are meeting "end on or nearly end on."

That ignorant persons should act upon the assumption that "Rule of the Road" means simply "Port Helm," and nothing else; or, in other words, that in every situation of doubt or uncertainty at night the helm is to be put to *port*, may be conceived; but that intelligent seamen should do so is difficult to believe, even in the face of testimony which has been given before the Admiralty courts in cases of collision.

The decisions (in the Admiralty cases cited) of Judge Sprague will serve to illustrate the subject treated of as it has been generally treated in the United States, while those referred to of the British Admiralty court will both serve as illustration and comparison of the practice in the two countries.

The criticisms of the rules and laws, and the many proposed changes of them, will serve to show the state of feeling in England among many seamen and others in regard to the laws to prevent collisions at sea as they were often construed prior to the Order in Council of August, 1868.

Among the many proposed changes, amendments, &c., of existing rules and laws with the view to promote safety at sea, the suggestion to use warning lights under a systematic plan in cases of emergency, preserving the same colors on the side of the vessel as shown from the running lights, commends itself very highly to the consideration of commanders of vessels at sea.

RULES OF THE ROAD; OR, STEERING AND SAILING RULES OF THE UNITED STATES.

GENERAL ORDER No. 34.

NAVY DEPARTMENT, *May* 4, 1864.

The provisions of the following act "fixing certain rules and regulations for preventing collisions on the water," to take effect on the first day of September, 1864, are adopted for the naval service of the United

States from this date. As most of the collisions occur from the non-observance of Article 16, it is particularly enjoined upon commanding officers, in approaching another vessel, to slacken and stop in time to prevent the possibility of collision:

AN ACT fixing certain rules and regulations for preventing collisions on the water.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after September one, eighteen hundred and sixty-four, the following rules and regulations for preventing collisions on the water be adopted in the navy and the mercantile marine of the United States: *Provided,* That the exhibition of any light on board of a vessel of war of the United States may be suspended whenever, in the opinion of the Secretary of the Navy, the commander-in-chief of a squadron, or the commander of a vessel acting singly, the special character of the service may require it.

REGULATIONS FOR PREVENTING COLLISIONS ON THE WATER.

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Article 1. Preliminary.

Rules concerning Lights.

2. Lights to be carried as follows:
3. Lights for steamships.
4. Lights for steam-tugs.
5. Lights for sailing ships.
6. Exceptional lights for small sailing vessels.
7. Lights for ships at anchor.
8. Lights for pilot vessels.
9. Lights for fishing vessels and boats.

Rules concerning Fog-signals.

10. Fog-signals.

Steering and Sailing Rules.

11. Two sailing ships meeting.
12. Two sailing ships crossing.
13. Two ships under steam meeting.
14. Two ships under steam crossing.
15. Sailing ship and ship under steam.
16. Ships under steam to slacken speed.

Article 17. Vessels overtaking other vessels.
18. Construction of Articles 12, 14, 15, and 17.
19. Proviso to save special cases.
20. No ship under any circumstances to neglect proper precautions.

PRELIMINARY.

Article 1. In the following rules, every steamship which is under sail, and not under steam, is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

RULES CONCERNING LIGHTS.

LIGHTS.

Article 2. The lights mentioned in the following articles, and no others, shall be carried in all weathers between sunset and sunrise.

LIGHTS FOR STEAMSHIPS.

Article 3. All steam vessels when under way shall carry—

(*a*) At the foremast head a bright white light, so fixed as to show a uniform and unbroken light over an arc of the horizon of twenty points of the compass, so fixed as to throw the light ten points on each side of the ship, viz: from right ahead to two points abaft the beam on either side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles.

(*b*) On the starboard side a green light, so constructed as to throw a uniform and unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*c*) On the port side a red light, so constructed as to show a uniform unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the port side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*d*) The said green and red side lights shall be fitted with inboard screens, projecting at least three feet forward from the light, so as to prevent these lights from being seen across the bow.

LIGHTS FOR STEAM-TUGS.

Article 4. Steamships, when towing other ships, shall carry two bright white masthead lights vertically, in addition to their side lights, so as to distinguish them from other steamships. Each of these masthead lights shall be of the same construction and character as the masthead lights which other steamships are required to carry.

LIGHTS FOR SAILING SHIPS.

Article 5. Sailing ships under way, or being towed, shall carry the same lights as steamships under way, with the exception of the white masthead lights, which they shall never carry.

EXCEPTIONAL LIGHTS FOR SMALL SAILING VESSELS.

Article 6. Whenever, as in the case of small vessels during bad weather, the green and red lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for instant exhibition, and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side, nor the red light on the starboard side.

To make the use of these portable lights more certain and easy, they shall each be painted outside with the color of the light they respectively contain, and shall be provided with suitable screens.

LIGHTS FOR SHIPS AT ANCHOR.

Article 7. Ships, whether steamships or sailing ships, when at anchor in roadsteads or fairways, shall, between sunset and sunrise, exhibit where it can best be seen, but at a height not exceeding twenty feet above the hull, a white light in a globular lantern of eight inches in diameter, and so constructed as to show a clear uniform and unbroken light visible all around the horizon, and at a distance of at least one mile.

LIGHTS FOR PILOT VESSELS.

Article 8. Sailing pilot vessels shall not carry the lights required for other sailing vessels, but shall carry a white light at the masthead, visible all around the horizon, and shall also exhibit a flare-up light every fifteen minutes.

LIGHTS FOR FISHING VESSELS AND BOATS.

Article 9. Open fishing boats and other open boats shall not be required to carry side lights required for other vessels; but shall, if they do not carry such lights, carry a lantern having a green slide on the one side and a red slide on the other side, and on the approach of or to other vessels, such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side. Fishing vessels and open boats when at anchor, or attached to their nets and stationary, shall exhibit a bright white light. Fishing vessels and open boats shall, however, not be prevented from using a flare-up in addition, if considered expedient.

RULES GOVERNING FOG-SIGNALS.

FOG-SIGNALS.

Article 10. Whenever there is a fog, whether by day or night, the fog-signals described below shall be carried and used, and shall be sounded at least every five minutes, viz:

(*a*) Steamships under way shall use a steam-whistle, placed before the funnel, not less than eight feet from the deck.

(*b*) Sailing ships under way shall use a fog-horn.

(*c*) Steamships and sailing ships, when not under way, shall use a bell.

STEERING AND SAILING RULES.

TWO SAILING SHIPS MEETING.

Article 11. If two sailing ships are meeting, end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

TWO SAILING SHIPS CROSSING.

Article 12. When two sailing ships are crossing, so as to involve risk of collision, then, if they have the wind on different sides, the ship with the wind on the port side shall keep out of the way of the ship with the wind on the starboard side, except in the case in which the ship with the wind on the port side is close-hauled, and the other ship free, in which case the latter ship shall keep out of the way. But if they have the wind on the same side, or if one of them has the wind aft, the ship which is to windward shall keep out of the way of the ship which is to leeward.

TWO SHIPS UNDER STEAM MEETING.

Article 13. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

TWO SHIPS UNDER STEAM CROSSING.

Article 14. If two ships under steam are crossing so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.

SAILING SHIP AND SHIP UNDER STEAM.

Article 15. If two ships, one of which is a sailing ship and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing ship.

SHIPS UNDER STEAM TO SLACKEN SPEED.

Article 16. Every steamship when approaching another ship so as to involve risk of collision, shall slacken her speed, or, if necessary, stop and reverse; and every steamship shall, when in a fog, go at a moderate speed.

VESSELS OVERTAKING OTHER VESSELS.

Article 17. Every vessel overtaking any other vessel shall keep out of the way of the said last-mentioned vessel.

CONSTRUCTION OF ARTICLES 12, 14, 15, AND 17.

Article 18. Where, by the above rules, one of two ships is to keep out of the way, the other shall keep her course, subject to the qualifications contained in the following article:

PROVISO TO SAVE SPECIAL CASES.

Article 19. In obeying and construing these rules, due regard must be had to all dangers of navigation, and due regard must also be had to any special circumstances which may exist in any particular case rendering a departure from the above rules necessary in order to avoid immediate danger.

NO SHIP UNDER ANY CIRCUMSTANCES TO NEGLECT PROPER PRECAUTIONS.

Article 20. Nothing in these rules shall exonerate any ship, or the owner or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

Approved April 29, 1864.

Should a collision unfortunately take place, each commanding officer is required to furnish the department with the following information:

1st. His own report, that of the pilot, the officer of the deck, and other officers who witnessed the occurrence. These reports and statements are to be exemplified by a diagram, and must contain the courses steered, the point at which the vessel was first seen, the bearing, the time when the engine was slowed, when the vessel was stopped, whether in motion, and if so, at what speed at the moment of collision, the direction of the wind, the condition of the weather and atmosphere, what lookouts were placed, what lights were exhibited by both vessels, whether either vessel deviated from the above rules and regulations, whether any blame can attach to any one, and if so, to whom, and any and all other facts bearing upon the subject.

2d. Written statements and estimate of damage from officers of the vessel with which the vessel of the United States Navy collided, if they can be obtained.

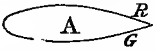
3d. Survey of the injury to both vessels by United States officers.

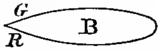
4th. If the vessel is in charge of a pilot, and the collision has occurred from his acting in violation of the above rules and regulations, the fact must be established in the report, and no pilotage paid to him.

GIDEON WELLES,
Secretary of the Navy.

The following diagrams are designed to illustrate the use of the lights carried by vessels at sea as prescribed in the above order, and the manner in which they indicate to each vessel the position and course of the other.

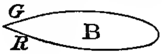
1. First. When the *Red* and *Green lights* are both seen.—A sees a *red* and *green* light ahead; A knows that a vessel is approaching him on a course directly opposite to the one he is steering, as B:

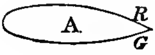




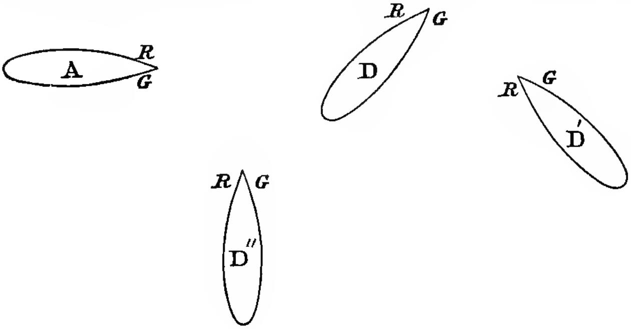
2. If A sees a *white mast-head light* above the *Red* and *Green lights*, he knows that the vessel B is a steamer. A should put his helm to port, and B seeing the same lights on board of A, should by the same rule, put his helm to port also.

3. Second. When the *Red light* only is seen.—A sees a *Red light* ahead, or on the port bow; A knows that either, first, a vessel is approaching him on his port bow, as B,





or second, a vessel is crossing his bows to port in some direction, as D D′ D″

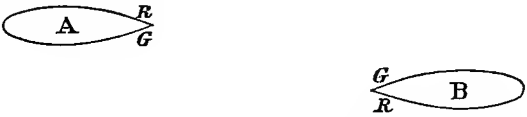


4. If A sees a *white mast-head light* above the *Red light*, he knows that the vessel is a steamer, and is either approaching in the same direction as B, or is crossing to port in the same direction as D D′ D″.

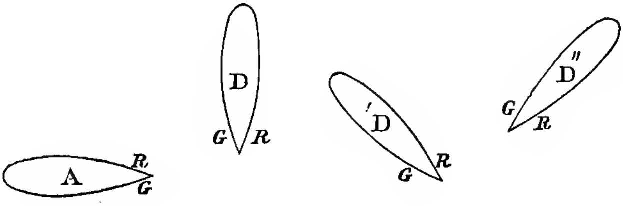
5. In the first position A sees B a little on the port bow. B's *red light* exposed, and, by the diagrams, B should see A's *red light* as well, in which case both vessels should put their helms to port.

6. In the second positions A sees D on his starboard bow, and from the fact that he only sees D's *red light*, he knows that D must be steering in some direction, as at D D′ D″; at the same time D D′ D″ will see A's *green light on his port bow.* In this case A having D clearly on his starboard bow, should put his helm to starboard to turn from D, and D having A clearly on his port bow, should put his helm to port to turn to starboard from A.

7. Third. When the *Green light* is seen, and the *Red light* is not seen.—A sees a *green* light ahead or on his bow; A knows that either, first, a vessel is approaching him on his starboard bow, as B,



or second, a vessel is crossing his bow in some direction to starboard, as D D′ D″.



8. If A sees a *White mast-head light* above the *Green light*, A knows that the vessel is a steamer, and is either approaching him in the same direction as B, or is crossing to starboard in some direction as D D′ D″.

9. In the *first position* A sees B on his starboard bow; B's *green light* exposed, and, by the diagram, B should see A's green light as well, in which case both vessels should put their helms to starboard.

10. In the *second position* A sees D on his port bow, and from the fact that he only sees D's *green light*, he knows that D must be steering in some direction, as D D′ D″; at the same time D will see A's *red* light on his starboard bow. In this case, A having D clearly on his port bow, should put his helm to port to turn from D, and D having A clearly on his starboard bow, should put his helm to starboard to turn to port from A.

11. Steam vessels discovering other vessels near them at night, should slow down, and, if need be, stop the engines until the exact position of both vessels is ascertained.

RULES AND REGULATIONS

FOR THE

Government of Pilots on board of Steamers in the United States, revised and adopted by the Board of Supervising Inspectors, October 17, 1865, *in compliance with the provisions of the* 29*th section of the act of Congress entitled "An act to amend an act entitled 'An act to provide for the better security of the lives of passengers on board of vessels propelled in whole or in part by steam, and for other purposes.'" Approved August* 30, 1852.

Rule I.—When steamers are approaching each other, the signal for passing shall be one sound of the steam-whistle to keep to the right, and two sounds of the steam-whistle to keep to the left. These signals to be made first by the ascending steamer. If the dangers of navigation, darkness of the night, narrowness of the channel, or any other cause, render it necessary for the descending boat to take the other side, she can do so by making the necessary signals, and the ascending steamer must govern herself accordingly. These signals to be observed by all steamers, either day or night.

Rule II.—Should steamers be likely to pass near each other, and these signals should not be made and answered by the time such boats shall have arrived at the distance of eight hundred yards from each other, the engines of both boats shall be stopped; or should the signal be given and not properly understood from any cause whatever, both boats shall be backed until their headway shall be fully checked, and the engines shall not be again started ahead until the proper signals are made, answered, and understood.

Rule III.—When two boats are about to enter a narrow channel at the same time, the ascending boat shall be stopped below such channel until the descending boat shall have passed through it; but should two boats unavoidably meet in such a channel, then it shall be the duty of the pilot of the ascending boat to make the proper signals, and when answered by the descending boat to lie as close as possible to the side of the channel the exchange of signals may have determined, as allowed by Rule First, and either stop the engines or move them so as only to give the boat steerage way, and the pilot of the descending boat shall cause his boat to be worked slowly until he has passed the ascending boat.

Rule IV.—When a steamer is ascending and running close on a bar or shore, the pilot shall in no case attempt to cross the river when a descending boat shall be so near that it would be possible for a collision to ensue therefrom.

Rule V.—No pilot of a descending steamer shall run down any island chute which is not the usual channel of the river—except such chutes as are designated by these rules, or may hereafter be designated by the Board of Supervising Inspectors.

Rule VI.—When any steamer, whether ascending or descending, is nearing a short bend or point, where, from any cause, a steamer approaching in an opposite direction cannot be seen at a distance of six hundred yards, the pilot of such steamer, when he shall have arrived within six hundred yards of that bend or point, shall give a signal by one long sound of his steam-whistle as a notice to any steamer that may be approaching; and should there be any approaching steamer within hearing of such signal, it shall be the duty of the pilot thereof to answer such signal by one long sound of his steam-whistle, when both boats shall be navigated with the proper precautions, as required by preceding rules.

Rule VII.—When a steamer is running in a fog or thick weather, it shall be the duty of the pilot to sound his steam-whistle at intervals not exceeding two minutes.

Rule VIII.—When steamers are running in the same direction, and the pilot of the boat which is astern shall desire to pass either side of the boat ahead, he shall give the signal as in Rule I, and the pilot of the boat ahead shall answer by the same signal, and allow the other to pass on the side selected, and shall in no case attempt to cross her bow or crowd upon her course.

Rule IX.—When boats are moving from their dock or berth, and other boats are liable to pass from any direction towards them, they shall give the same signal as in case of boats meeting at a bend; but immediately after clearing the berth so as to be fully in sight, they shall be governed by Rule II.

Rule X.—Doubts or fears of misunderstanding signals may be expressed by several short sounds of the whistle in quick succession.

Rule XI.—Steamers descending the Ohio and Mississippi Rivers between Louisville, Ky., and New Orleans, La., shall not run down any island chute, either by day or night, except those herein or hereafter designated, unless such chutes are the usual channel of the river.

Rule XII.—The following island chutes may be navigated by descending steamers on the Ohio River between Louisville, Ky., and Cairo, Ill., when the river shall be sufficiently high for them to do so with safety, viz: Blue River Island, Diamond Island, Golconda Island, Sister Islands, Stewart's Island, and Cumberland Island, either by day or night, and Wabash Island chute by daylight only.

Rule XIII.—The following island chutes on the Mississippi River, between Cairo and New Orleans, may be navigated by descending steamers during daylight, when the river shall be sufficiently high for them to do so with safety, viz: Islands Nos. 8, 34, 35, 40, 41, called Paddy's Hen; 46, or President's Island; 65, 75, or Ozark Island; 76, 93, 97, 109, or Palmyra Island; 110, or Big Black Island; 116, or Glasscock's Island; or 123, or Profit's Island.

Rule XIV.—The following island chutes may be navigated by descending steamers during the night, when the river may be sufficiently high for them to do so with safety, viz: Islands Nos. 8, 34, 41, or Paddy's Hen; 65, 76, 93, 97, 109, or Palmyra Island; 110, or Big Black Island; 116, or Glasscock's Island.

Rule XV.—Ascending steamers are not prohibited from running any island chutes.

Rule XVI.—Signal lights for steamers under way are provided by law as follows, the same to be carried between sunset and sunrise:

For ocean steamers and steamers carrying sail, a bright white light at the foremast head, to throw the light through ten points of the compass on each side of the ship, viz: from right ahead to two points abaft the beam, and to be visible at least five miles. On the starboard side a green light, and on the port side a red light, each to throw the light through ten points of the compass on their respective sides, viz: from right ahead to two points abaft the beam, and to be visible at least two miles. These colored lights are to be fitted with inboard screens, projecting at least three feet forward from the light, to prevent them from being seen across the bow.

For steamers navigating waters flowing into the Gulf of Mexico, a red light on the outboard side of the port smoke-pipe, and a green light on the outboard side of the starboard smoke-pipe; these lights to show both forward and aft, and also abeam on their respective sides.

For coasting steamers and those navigating bays, lakes, or other inland waters, other than ferry-boats and those above provided for, the red and green side-lights as prescribed for ocean steamers, and a central range of two white lights, the after light being carried at an elevation of at least fifteen feet above the light at the head of the vessel; the head-light to show through twenty points of the compass, namely: from right ahead to two points abaft the beam on either side of the vessel; and the after-light to show all around the horizon.

For steamers towing other vessels, the colored lights will be the same as prescribed for ocean steamers; and two white mast-lights shall also be carried vertically, to distinguish them from other steamers; the white lights to show through twenty points of the compass, viz: from right ahead to two points abaft the beam on either side of the vessel; white lights shall also be placed on the extreme outside of the tow on either hand, and also on the extreme after part of the same.

Rule XVII.—A bright white light, not exceeding twenty feet above the hull, shall be exhibited by all steamers when at anchor, between sunset and sunrise, in a globular lantern of eight inches diameter, so placed as to show a good light all around the horizon.

[*Signed by the Supervising Inspectors of Steamboats.*]

ACT OF JULY 7, 1838.

Chapter 191.

AN ACT to provide for the better security of the lives of passengers on board of vessels propelled in whole or in part by steam.

* * * * * * * *

Signal lights to be carried by vessels running at night.

Sec. 10. *And be it further enacted*, That it shall be the duty of the master and owner of every steamboat running between sunset and sunrise to carry one or more signal lights that may be seen by other boats navigating the same waters, under the penalty of two hundred dollars.

Penalty.

ACT OF MARCH 3, 1849.

CHAPTER 105.

AN ACT making appropriations for light-houses, light-boats, buoys, &c., and providing for the erection and establishment of the same, and for other purposes.

[*The first four sections of this act relate to other matters.*]

Regulations to be observed by vessels navigating the northern or northwestern lakes in the night.

SEC. 5. *And be it further enacted*, That vessels, steamboats, and propellers navigating the northern and western lakes, shall, from and after the thirtieth day of April next, comply with the following regulations, for the security of life and property, to wit: During the night vessels on the starboard tack shall show a red light, vessels on the larboard tack a green light, and vessels going off large or before the wind, or at anchor, a white light; steamboats and propellers shall carry on the stem, or as far forward as possible, a triangular light, at an angle of about sixty degrees with the horizon, and on the starboard side a light shaded green, and on the larboard side red; said lights shall be furnished with reflectors, &c., complete, and of a size to insure a good and sufficient light; and if loss or damage shall occur, the owner or owners of the vessel, steamboat, or propeller neglecting to comply with these regulations, shall be liable to the injured party for all loss or damages resulting from such neglect, and the owner or owners of any vessel failing to comply with said regulations shall forfeit a penalty of one hundred dollars, which may be recovered in an action of debt, to be brought by the district attorney of the United States, in the name of the United States, in any court of competent jurisdiction.

Penalty.

Approved March 3, 1849.

STEAMBOAT ACT OF AUGUST 30, 1852.

CHAPTER 106.

AN ACT to amend an act entitled "An act to provide for the better security of the lives of passengers on board of vessels propelled in whole or in part by steam," and for other purposes.

* * * * * * * *

Nine supervising inspectors to be appointed.

SEC. 18. *And be it further enacted*, That, in order to carry this act fully into execution, the President of the United States shall, with the advice of the Senate, appoint nine supervising inspectors, who shall be selected for their knowledge, skill, and experience in the uses of steam for navigation, and who are competent judges not only of the character of vessels, but of all parts of the machinery employed in steaming, who shall assemble together at such places as they may agree upon, once in each year at least, for joint consultation and the establishment of rules and regulations for their own conduct and that of the several boards of inspectors within the districts, and also to assign to each of the said nine inspectors the limits of territory within which he shall perform his duties.

Their qualifications.

To meet as a board at least yearly, to make rules and regulations, and assign limits.

* * * * * * * *

Sec. 28. *And be it further enacted*, That on any such steamers, navigating rivers only, when from darkness, fog, or other cause, the pilot on watch shall be of opinion that the navigation is unsafe, or from accident to or derangement of the machinery of the boat, the engineer on watch shall be of the opinion that the further navigation of the vessel is unsafe, the vessel shall be brought to anchor or moored as soon as it prudently can be done: *Provided*, That if the person in command shall, after being so admonished by either of such officers, elect to pursue such voyage, he may do the same; but in such case both he and the owners of such steamer shall be answerable for all damages which shall arise to the person of any passenger and his baggage from said causes in so pursuing the voyage, and no degree of care or diligence shall in such case be held to justify or excuse the person in command or said owners.

Stopping of vessels when navigation is dangerous on rivers.

Liability for damages if no stop is made.

Sec. 29. *And be it further enacted*, That it shall be the duty of the supervising inspectors to establish such rules and regulations, to be observed by all such vessels in passing each other, as they shall from time to time deem necessary for safety, two printed copies of which rules and regulations, signed by said inspectors, shall be furnished to each of such vessels, and shall at all times be kept up in conspicuous places on such vessels, which rules shall be observed both night and day. Should any pilot, engineer, or master of any such vessel neglect or wilfully refuse to observe the foregoing regulations, any delinquent so neglecting or refusing shall be liable to a penalty of thirty dollars, and to all damage done to any passenger, in his person or baggage, by such neglect or refusal;

Rules for passing to be adopted by the supervising board and to be kept posted in every steamboat.

Penalty for neglecting to observe such rules.

and no such vessel shall be justified in coming into collision with another if it can be avoided.

* * * * * * * *

Pilots and engineers to be sworn before entering on their duties.

SEC. 38. *And be it further enacted*, That all engineers and pilots of any such vessels shall, before entering upon their duties, make solemn oath before one of the inspectors herein provided for, to be recorded with the certificate, that he will faithfully and honestly, according to his best skill and judgment, perform all the duties required of him by this act, without concealment or reservation; and if any such engineer, pilot, or any witness summoned under this act as a witness, shall, when under examination on oath, knowingly and intentionally falsify the truth, such person shall be deemed guilty of perjury, and if convicted, be punished accordingly.

Penalty on them and witnesses for false swearing.

* * * * * * * *

Penalties, how sued for and recovered.

SEC. 41. *And be it further enacted*, That all penalties imposed by this act may be recovered in an action of debt by any person who will sue therefor in any court of the United States.

This act not to apply to certain vessels.

SEC. 42. *And be it further enacted*, That this act shall not apply to public vessels of the United States or vessels of other countries; nor to steamers used as ferry-boats, tug-boats, towing-boats, nor to steamers not exceeding one hundred and fifty tons burden, and used in whole or in part for navigating canals. The inspection and certificate required by this act shall in all cases of ocean steamers constructed under contract with the United States, for the purpose, if desired, of being converted into war steamers, be made by a chief engineer of the navy, to be detailed for that service by the Secretary of the Navy, and he shall report both to said Secretary and to the supervising inspector of the district where he shall make any inspection.

Inspection of the ocean mail steamers.

When this act shall take effect.

SEC. 43. *And be it further enacted*, That all such parts of this act as authorize the appointment and qualification of inspectors, and the licensing of engineers and pilots, shall take effect upon the passage thereof, and that all other parts of this act shall go into effect at the times and places as follows: in the districts of New Orleans, St. Louis, Louisville, Cincinnati, Wheeling, Pittsburg, Nashville, Mobile, and Galveston, on the first day of January next; and in all other districts on the first day of March next.

Inconsistent laws repealed.

SEC. 44. *And be it further enacted,* That all parts of laws heretofore made, which are suspended by or are inconsistent with this act, are hereby repealed.

Approved August 30, 1852.

ACT OF JULY 25, 1866.

AN ACT further to provide for the safety of the lives of passengers on board of vessels propelled in whole or in part by steam, to regulate the salaries of steamboat inspectors, and for other purposes.

* * * * * * * *

All vessels except, &c., to be subject to the navigation laws of the United States.

Steam vessels, &c., to be subject to act of 1852.—Ch. 106, § 29, vol. x, p. 72.

Sea-going steam vessels, under way, except on high seas, to be under control of licensed pilots, except, &c.

SEC. 9. *And be it further enacted,* That all vessels navigating the bays, inlets, rivers, harbors, and other waters of the United States, except vessels subject to the jurisdiction of a foreign power and engaged in foreign trade and not owned in whole or in part by a citizen of the United States, shall be subject to the navigation laws of the United States; and all vessels propelled in whole or in part by steam, and navigating as aforesaid, shall also be subject to all rules and regulations consistent therewith, established for the government of steam vessels in passing, as provided in the twenty-ninth section of an act relating to steam vessels, approved the thirtieth day of August, eighteen hundred and fifty-two. And every sea-going steam vessel now subject or hereby made subject to the navigation laws of the United States, and to the rules and regulations aforesaid, shall, when under way, except upon the high seas, be under the control and direction of pilots licensed by the inspectors of steam vessels; vessels of other countries and public vessels of the United States only excepted.

* * * * * * * *

Foremast-head light only on ocean-going steamers, and those carrying sail.

1864, ch. 69, vol. xiii, p. 58.

SEC. 11. *And be it further enacted,* That the provision for a foremast-head light for steamships, in an act entitled "An act fixing certain rules and regulations for preventing collisions on the water," approved the twenty-ninth day of April, eighteen hundred and sixty-four, shall not be construed to apply to other than ocean-going steamers and steamers carrying

Lights of river steamers and steamers navigating waters flowing into Gulf of Mexico.

July 25, 1866.

Of coasting steamers, &c., other than ferry boats, &c.

sail. River steamers navigating waters flowing into the Gulf of Mexico shall carry the following lights, viz: One red light on the outboard side of the port smoke-pipe, and one green light on the outboard side of the starboard smoke-pipe; these lights to show both forward and aft, and also abeam on their respective sides. All coasting steamers, and those navigating bays, lakes, or other inland waters, other than ferry-boats and those above provided for, shall carry the red and green lights as prescribed for ocean-going steamers; and, in addition thereto, a central range of two white lights; the after light being carried at an elevation of at least fifteen feet above the light at the head of the vessel; the head light to be so constructed as to show a good light through twenty points of the compass, namely, from right ahead to two points abaft the beam on either side of the vessel; and the after light to show all around the horizon.

DECISIONS OF HON. PELEG SPRAGUE IN ADMIRALTY AND MARITIME CAUSES IN THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.

RULES OF THE ROAD.—COMMON LAW OF THE SEA.—COLLISIONS.—LAW OF THE PORT HELM, &c.

"When a steamer meets a sailing vessel going free, it is the duty of the sailing vessel to keep her course, and the duty of the steamer to keep out of her way by all reasonable and practicable means in her power, without being restricted to going to the right or to the left, or to any other particular measure. Law of collision generally. General rules as to the course to be pursued by vessels approaching each other to avoid collision."—(Sprague's Decisions, 245, Vol. I, Case of the Osprey, 1854.)—"R. H. Dana, jr., and D. W. Gooch for the Osprey."

"The rules in the law of collision, which seem technical and arbitrary, will be found, on careful analysis, to be simple and founded in equity. All will be found to turn upon the consideration whether the two vessels meet on terms of equality or of inequality. If the former, the loss and labor of deviation is borne equally. If the latter, the vessel having the advantage takes the whole duty upon herself, and the other vessel keeps her course. If the favored vessel *may* keep her course, she *must* do so, that the other vessel may know what to depend upon. Where both vessels are steamers, or both are close-hauled, or both are free, they are equal, and each keeps to the right. The rule, where both are close-hauled, has usually been stated as though the vessel on the starboard tack was favored, but it is really only an instance of the rule that each keeps to the right. Where one is going free and the other is close-hauled they are on an inequality, and the favored vessel takes the whole duty of avoiding the other, and the latter keeps her course." *The Gazelle*, (2, W. Rob., 517;) *The George*, (5, Notes of Cases, 368;) *The Woodrop Sims*, (2, Dod., 83;) *The Speed*, (2, W. Rob., 225.)

Where a steamer meets a sailing vessel close-hauled, it is well settled that the latter is to keep her course, and the steamer to get out of her way. *The Shannon*, (2, Hagg., 173;) *The Columbine*, (2, W. Rob., 27;) *The Gazelle*, (Id., 517;) *The Berkenhead*, (3 Id., 75;) *The Vivid*, (7, Notes of Cases, 127.)

Whenever one vessel is to keep her course, and the other is to take the whole duty of avoiding her, the latter, whether steamer or sailing vessel, is not restricted to going to the right, but may take any course, and resort to any measures, which are most judicious and convenient. *The Berkenhead*, (3, W. Rob., 75;) *The James Watt*, (2, Id., 270;) *The Northern Indiana*, (16, Law Rep., 434; *The Leopard*, (Davies, 193;) *St. John* vs. *Paine*, (10, How., 557;) *Newton* vs. *Stebbings*, (Id. 590.)

A steamer meeting a sailing vessel free is a case of inequality, and should be governed by the latter rule. The proof in this case of a usage to that effect on the American coast is incontrovertible. It is founded in better policy, because it gives one uniform rule in all cases of steamers meeting sailing vessels, and does away with all inquiries at the time or afterwards into the question whether the sailing vessel was close-hauled or free. It is also more equal. The judicial decisions in America favor this rule. *The Leopard*, (Davies, 193;) *The Northern Indiana*, (16, Law Rep., 434;) *St. John* vs. *Paine*, (10, How., 557;) *Newton* vs. *Stebbings*, (Id., 590.)

In the English cases heretofore cited, although the sailing vessels happened to be close-hauled, the rule was not restricted to those cases, and the case of *The Shannon* (2, Hagg., 173,) favors the uniform rule. The only case to the contrary is that of *The City of London*, (4, Notes of Cases, 40.) In that case the court follows a phrase instead of a principle, and feels bound to treat a steamer as a sailing vessel having the wind always free. That phrase was used in cases of steamers meeting vessels close-hauled, and was not intended to apply to and limit cases of steamers meeting vessels sailing free.

The rule we contend for is founded in usage, in policy, in equity, and is supported by the weight of judicial authority.

J. C. PARK, for the *Fanny*, contended—

1st. That upon the facts in the case it appeared that the brig was coming up the harbor about mid-channel, was holding her course nearly before the wind, and did not port her helm until the steamer had put her helm to starboard and veered to leeward; that then it was done to give the steamer more space and more time to "slow," "stop," and "reverse" her engine; and that she (the steamer) should have done this and thus have avoided the collision.

2d. That if the brig did port her helm on discerning the steamer, she was right in so doing; and reliance was placed on the judgment of Dr. Lushington in the case of *The City of London*, (A. D. 1845, 4, Notes of Cases, 40.) In that case, which, in most of its facts, was similar to the one at bar, after stating the rule as well understood that a steamer is to be regarded as a vessel sailing with the wind free, the court went on to say: "I have had occasion, over and over again, to say in this court, and I will endeavor to put it in the clearest language I can command, that whenever two vessels meet at sea and there is any probable chance whatever of collision, it is their duty to abide by the principles of navigation, and each of them to take the precaution of putting the helm to port, where both are free, so as to avoid the chance of accident; and for this obvious and plain reason: that in a dark night like this, how often must it happen that some doubt will arise whether the vessel be direct ahead or one point to the starboard or to the larboard? And are you to leave to mere chance the discovering this with perfect accuracy, or are you not immediately to adopt that which is the only safe precaution—that is, following out the principle of the order, putting the helm to port at once, and so avoiding the collision?"

3d. That adherence to the rule laid down above by this highest English authority would insure against *the accident itself* by giving an arbitrary rule, safe and sure, whether there really were danger or not; while the other rule that the sailing vessel should hold her course, and the steamer choose her course at her own peril, although it might enable the court to determine with certainty where the fault lay after the collision had occurred, furnished by no means so sure a mode of avoiding it.

4th. That the rule of keeping to the right having been adopted and sanctioned by judicial decision and nine years' uniform practice in England and the British territories, (with whom was much of our commercial intercourse,) it was the best policy to adopt the same arbitrary rule for the sake of uniformity of practice. Reverse Dr. Lushington's opinion, and the steamers and sailing vessels now multiplying between the two countries must be governed by different rules depending upon the waters they are navigating.

5th. To give an American decision adverse to that adopted in England for nine years would place the vessels of the two countries in an awkward position. When two vessels should meet in a narrow channel in an obscure light, in waters not under the jurisdiction of either government, one would adhere to the American, the other to the English rule, and a collision would be the sure consequence. In obscurity and doubt, an arbitrary *uniform* rule of action is always the safest.

6th. It was contended that, on the evidence, the crew of the steamer descried the brig ten minutes before the collision; that the steamer was then going at the rate of six miles an hour, and she must, therefore, have steamed one mile before the collision; that it had been shown that she could be stopped in two hundred yards, and the engineer testifying that the signal to "reverse" only preceded the collision fifteen seconds; that it was culpable negligence in the steamer's crew not to "stop" and "reverse" sooner; even though the sailing vessel had been wrong in "porting" her helm. For each vessel was bound to use all its powers in order to avoid injury to itself and others. Two wrongs could never make a right.

SPRAGUE, J.—In these cases I have received great aid from the learned and able counsel.

They are cross-libels for damage by collision.

The collision took place about eight o'clock in the evening, of the 12th of August last, in that part of Boston harbor called the Narrows, where the channel is about a fourth of a mile in width. When the vessels discovered each other, the Osprey, a steamer, was going down the harbor, in about mid-channel, at the rate of seven or eight knots—the northern shore being on her larboard hand and the southern on her starboard. The Fanny, a sailing vessel, was coming up the harbor nearer to the southern shore, and between the southern shore and the middle of the channel, and her direction was either straight up the channel or inclined to the south. There was a five-knot breeze from the S.S.W., which was a free wind for the Fanny, being a little abaft her beam and on her larboard side. Upon discovering each other the steamer put her helm to starboard, and the Fanny put hers to port, which carried both vessels toward the northern shore where the collision took place. The steamer went so far as to take the ground on the northern shore, which was very bold just at the time or a few seconds before the vessels came in contact. The Fanny ran head on to the steamer, striking her starboard bow at an angle of about forty-five degrees.

The collision would have been avoided, by the steamer taking the measure she did, if the Fanny had either kept her course or put her helm to starboard; and it also would have been avoided, by the Fanny taking the measure she did, if the steamer had put her helm to port. According to the weight of judicial opinion and nautical practice in England, the brig was right and the steamer was wrong; but according to the weight of judicial opinion and nautical practice in this country, the steamer was right and the brig was wrong.

This renders it necessary to examine the question on principle as well as on authority. The great increase of navigation within a few years past, and the multiplication of clipper ships and steamers moving with great speed, and the vast amount of property, and the number of human lives constantly exposed to the dangers of collision, render it of great and increasing importance that the rules for its prevention should be uniform throughout the commercial world, and that they should be plain and simple and founded on principle.

All the rules upon this subject are founded upon the supposition that there is some reason to apprehend collision; for, if the position and course of the vessels are such that there is no danger of their coming in contact, the rules are not called into action, and each vessel keeps on her course. It is to be premised, in the first place, that the object to be attained is safety, and, in the next place, that it is desirable that this should be attained at the least cost, whether that cost consist in labor, delay, or risk. All the cases may be comprised in two classes: first, when vessels meet on terms of equality; second, when they meet on terms of inequality. The first comprises three cases, namely:

1st. Two sailing vessels, both going free.

2d. Two steamers.

3d. Two sailing vessels, both close-hauled. To all the cases one simple rule may be applied, namely: Both go to the right. This rule is partly arbitrary and partly founded on substantial reasons. It is arbitrary so far as it directs to the right rather than to the left; but in requiring both parties to take measures, as far as practicable, to get out of the way, it is founded on principle.

Take the first case, that of two sailing vessels approaching each other, both having the wind free. By the rule both must diverge from their course. The reason is, that thus safety is more certain than if one only diverged, and the inconvenience is justly divided between them, as both can, by a free wind, regain the line on which they were sailing before they met.

The same reason applies to the second case, that of two steamers meeting.

In the third case, that of two sailing vessels, both close-hauled upon the wind, the rule, as generally expressed, is that the one on the starboard tack shall keep on her course, and the one on the larboard tack shall give way by porting her helm. But the rule thus expressed is, in effect, a direction to both to go or keep to the right. The one on the starboard tack being close-hauled is already going as far to the right as possible. When, therefore, the rule says she shall keep on her course, it, in fact, says she shall keep to the right. The one on the larboard tack also goes to the right, and she must deviate far enough to avoid the collision. She is thus, indeed, subjected to the whole inconvenience necessary to secure the safety of both—that is, to all the labor, delay, and risk, of diverging to the leeward; but this is because the other vessel cannot diverge from her course by going farther to windward.

The second class above mentioned, viz: where vessels meet on terms of inequality, embraces two cases at least, viz:

1st. Two sailing vessels, one free and the other close-hauled.

2d. A steamer and a sailing vessel, the latter being closed-hauled.

Here the rule is that the vessel having the advantage must keep out of the way, and the other must keep her course. Thus, in the first case, that of two sailing vessels, one going free and the other close-hauled, the one having the advantage of a fair wind can diverge from the line of her course, so as to avoid collision, and then return to that line or take another verging toward it and carrying her to the same point. But the vessel which is close-hauled, whether on the larboard or starboard tack, can give way only by going to leeward, and cannot regain the line of her previous course; but when she again hauls to the wind, must proceed on a line parallel to her former course. She thus loses the whole distance she has diverged to the leeward, which may sometimes occasion great delay and hazard. The same reasons apply with increased force to the second case, that of a steamer meeting a sailing vessel close-hauled; the motive power of the former giving her a greater advantage than even a fair wind does to a sailing vessel.

We come now to the case before the court, that of a sailing vessel going free meeting a steamer. Shall we apply to it the rule of the first class, which requires both to go to the right, or the rule of the second class, which requires the one having the advantage to keep out of the way and the other to keep her course?

1st. A steamer has an advantage over a sailing vessel even with a free wind. She can oftentimes turn in a shorter time and space, and check, stop, and reverse her motion, in a manner which a sailing vessel cannot. The motive power of the one is under human control, and at all times available, that of the other is not. The wind bloweth not only where it listeth, but when it listeth; and it is of importance to the sailing vessel to improve it to the utmost while fair. It may suddenly come ahead or wholly cease, and in the latter case she would be helpless.

2d. Safety and convenience are promoted by having the rules simple, uniform, and governed by a plain principle. If we require a steamer, meeting a sailing vessel, to keep out of her way, and the sailing vessel to keep her course, whether she be going free or close-hauled, we have one plain rule for all cases between steamers and sailing vessels, which may be instantly applied. The moment they see each other both will know their duty—the one that she must keep her course, the other that she must keep out of the way, by all means in her power, without being restricted to the right or to the left, or to any other particular measure. If we have one rule when the sailing vessel is close-hauled, and another when she is going free, then the steamer must first ascertain the direction she is sailing, and afterwards whether the wind is fair for that course, which may sometimes be a matter of doubt and difficulty, for the steamer is not as watchful of the wind and cannot so readily determine its direction, as if she depended on sails. As she moves rapidly the wind will often appear to be more ahead, and consequently more fair for the approaching vessel than it actually is, especially if it be light; besides which the wind may sometimes be baffling. All these doubts and uncertainties will be obviated by having one rule for all cases of sailing vessels meeting steamers.

3d. The general principle is that the vessel having the advantage shall take all the burden of keeping out of the way. This principle governs all other cases of inequality, and should be applied to this also, unless there be some necessity for making it an exception. On the other hand it may be said that by requiring both to go to the right safety will be promoted, as they will separate more rapidly, and also that the inconvenience will be divided instead of being wholly borne by one. And these considerations certainly have weight. But they apply also to the case of a vessel close-hauled, with her larboard tacks aboard, meeting a steamer; and yet in such case those considerations have never been thought sufficient to outweigh the advantage of the other rule. The force of this last remark, however, is weakened by the fact that the inconvenience of giving way is greater to a vessel close-hauled than to one going free.

On the whole, the balance of advantage seems to be in favor of one uniform rule. Let us now see how the question stands upon authority. In the case of *The City of London*, in the High Court of Admiralty, in 1845, reported in 4, Notes of Cases, 40, it was decided by Dr. Lushington, assisted by Trinity Masters, that in a case like the present both vessels must port their helm—that is, go to the right. This decision rests entirely on the proposition that "a steamer is always to be considered a vessel with the wind large." Is this proposition true? It is not laid down in any statute, admiralty regulation, rule of the Trinity House, or other maritime association, nor required by any judicial decision or previous nautical usage.

Cases had arisen of collision between a steamer and a sailing vessel with the wind large—that is, must keep out of the way; and the reason is obvious. The steamer has at least as great power and ability as such sailing vessels, and, therefore, should be under as great obligation. But has she not greater power, and may she not be under greater obligation? This question was not involved in these previous cases, and was neither decided nor considered by the court. In those cases the declaration that a steamer was to be considered a sailing vessel going free was first made use of. That expression was well enough for the occasion on which it was used, and taken *pro hac vice.* But it is not to be presumed that the court intended to lay down the proposition that a steamer was at all times and in all cases to be deemed merely a sailing vessel going free; and if they did, so far as it went beyond the case before the court it was no decision, but a mere *dictum.*

That expression or proposition was taken up by the court in the case of *The City of London*, and made the sole ground of decision; but it is neither an argument nor the statement of a principle. It is rather an assertion founded on a comparison; and comparisons may illustrate, but prove nothing.

I have said that the assertion that a steamer is always to be considered a vessel with the wind large, taken as a general proposition embracing the case now before us, is not sustained by any previous rule or nautical usage. This is confirmed by the very authority which we are now examining. The learned judge does not say or intimate that there had been any such rule or practice in the precise case, viz: a steamer meeting a sailing vessel going free, but states the practice in the case of two sailing vessels, both going free, and the Trinity rule as to two steamers, and then asserts that the principle of that practice and the spirit of that rule are applicable to the new case then before the court. But are they applicable? The two former cases are, as we have seen, those of perfect equality, and the latter, one of inequality. How, then, the principle or spirit of the rule or practice which govern the former is applicable to the latter is not apparent without explanation, and the explanation is not given. It is to be regretted that that learned and able judge did not go into the *rationale* of the rule which he was about to adopt and make a comparison of its advantages and disadvantages, and show that it would conduce to safety and convenience of navigation. This was not done.

The reason assigned is not satisfactory. The decision, however, as an authority upon this subject is the highest in England and entitled to very great respect.*

There is a case reported, decided in 1828, *The Shannon*, (2, Haggard, 173,) in which the opinion of the Trinity Masters, and the judgment of the court thereon, seem to be adverse to the decision in the case of *The City of London.* The report, however, is imperfect.

In the courts of the United States there have been four cases bearing upon this question. In *St. John* vs. *Paine et al.*, (10, How., 557,) a sailing vessel in Long Island Sound, while on her starboard tack, with the wind two points free, came in collision with a steamer. It was decided that the steamer was in fault, because on her rested the obligation to keep out of the way. Mr. Justice Nelson, in delivering the opinion of the court, says that the sailing vessel was nearly close-hauled; and the decision may not, perhaps, be deemed a direct authority where she has the wind large, but the remarks of the learned judge fully cover such a case. He says that a steamer has a greater power of directing her course and controlling her motion than a sailing vessel going free, and is bound to keep out of her way; and that a sailing vessel meeting a steamer may keep on her course, whether she be close-hauled or going free.

The same doctrine is countenanced by the case of *Newton* vs. *Stebbins*, (10, How., 586,) in which a sailing vessel coming down the North River, and carried chiefly by the current, the wind being light, came in collision with a steamboat going up. The court held that the steamboat was to blame in not keeping out of the way; and by the report, it seems that they did not deem it necessary to inquire what was the direction of the wind, or how far it could control the movements of the vessel.

In the case of *The Leopard*, in the district court of Maine, in 1842, (Davies, 193,) a sailing vessel going up the Kennebec River, with a fair wind, came in collision with a steam ferry-boat. It was held that the former had a right to keep on her course, and that the latter was bound to keep out of her way, on the ground that the steamer has greater ability than any sailing vessel.

In the case of *The Northern Indiana*, in the northern district of New York, in the year 1852, (16, Law Rep., 434,) a sailing vessel on Lake Erie, on her larboard tack, with the wind one point, or one and-a-half, free, came in collision with a steamer. It was held that the former had a right to keep her course, and the latter was bound to take the necessary measures to avoid a collision.

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* The law, as laid down in "*The City of London*" case, was established in England by legislation—17 and 18, Vict., c. 104, sec. 296, (*The Inga, Stuart's Adm.*, 335,)—but it has been repealed, (see sec. 25 of 25 and 26, Vict., c. 63,) and the Table (C,) Schedule "Regulations for preventing Collisions at Sea," "issued in pursuance of the Merchant Shipping Act, Amendment Act, 1862," are now in force.

We now come to the evidence of nautical usage. One witness, the pilot who had charge of the *Fanny*, and whose conduct is now in question, testifies that by the British practice, when a steamer meets a sailing vessel going free, both port their helms, and that the British steamers which come to Boston always act upon and inculcate that rule. On the other hand, several pilots and shipmasters testify that, in such case, on the American coast, the sailing vessel always keeps her course, and the steamer must keep out of the way. Upon the whole, I am led to the conclusion that when a sailing vessel, going free, meets a steamer, the rule that requires the former to keep her course, and the latter to keep out of the way, is best sustained by principle, by authority, and by the evidence before me of nautical usage. It remains to be seen whether this rule is applicable to the place where this collision occurred.

There are various exceptions to these general rules, which may here be enumerated. In general, they will be found to rest upon the principle that when the observance of the rule would not promote, but defeat, its great purpose, safety, the rule ceases to be obligatory.

Thus, if there be two sailing vessels, both close-hauled, and the one on the larboard tack is so far to windward of the other that, if she ports her helm, it will produce collision, the rule ceases to be obligatory. Such distance to the windward has been sometimes defined by saying that if the vessel on the larboard tack would, if both keep their course, be struck by the other abaft the beam, on the starboard side, she is not to port her helm.

So, also, when collision has become inevitable, the general rules are no longer enforced, but each vessel may adopt such measures as will diminish her danger.

Again, there may be obstructions to navigation which prevent the application of the rule.

In this case, the vessels were in the Narrows, in Boston harbor, where the channel is a fourth of a mile wide. The banks are bold, and there was no current, rock, shoal, vessel, or other obstruction, to interfere with the application of the rule, and it was therefore obligatory upon both vessels. The *Fanny*, then, ought to have kept her course, and in deviating from it she did wrong. The *Osprey* had a right to go to the left, and in putting her helm to starboard she was not to blame.

But there is another ground on which it is insisted that the *Osprey* did wrong, and that is, in not stopping her engine as soon as she might and ought to have done after she had put her helm to starboard, and saw the *Fanny* had put hers to port. Although the *Fanny* made a mistake, yet the steamer was still bound to prevent a collision by all practicable and reasonable means, and when she saw that the *Fanny* had put her helm to port, she ought promptly to have stopped her engine, if that would have avoided the collision. How is the fact? [The judge here went into a particular examination of the evidence.] Upon the whole, I do not think that it is shown that the *Osprey* was negligent in this respect, or in any manner to blame, and the decree must be against the *Fanny*."

The following is a brief summary of the decisions by Judge Sprague in other cases of collision:

"A steamer, used as a ferry-boat, and in the act of transporting passengers in the harbor of Boston, in violation of law, came by accident in collision with a vessel which was in the lawful use of the waters of the harbor. *Held*, that the steamer was liable for the damage done by such collision."—*The Maverack*, (23, 1 Sprague.)

"By the maritime law, a vessel at anchor in a thoroughfare, in a dark night, is bound to exhibit a light."—*Lenox* vs. *Winisimmet Co.*, (1, Sprague, 160.)

"In a case of collision, both vessels being in fault, the aggregate damage and costs were equally divided."—(*Ib.*)

"Where a ship without sails was lashed to a steamer alongside, and so towed, the steamer furnishing the whole motive power, and the ship came in collision with a sailing vessel, the steamer was held responsible."—*The R. B. Forbes*, (328, 1, Sprague.)

"If the night was so dark that a sailing vessel coming up Boston harbor could not be seen from a ship and a steamer towing such ship out of the harbor in season to avoid a collision, it was not proper for the latter to leave the wharf and go down the harbor."—(*Ib.*)

"Where a steamer and a sailing vessel are approaching each other, it is the duty of the latter to keep her course, and of the former to keep clear."—(*Ib.*)

"It is an established rule in the district court that, in a case of collision, if both parties are in fault, the loss must be divided."—*Allen* vs. *Mackay*, (219, 1, Sprague.)

"Where sailing vessels are approaching each other, one close-hauled, the other going free, it is the duty of the latter to clear the former. To this general rule there may be exceptions."—(*Ib.*)

"Where a steamer meets a sailing vessel going free, it is the duty of the sailing vessel to keep her course, and the duty of the steamer to keep out of her way by all reasonable and practicable means in her power, without being restricted to going to the right or to the left, or to any other particular measure."—*The Osprey*, 245.

"A vessel off the wind must give way to one close-hauled."—*The Clement*, (257, 1, Sprague.)

"Where a square-rigged vessel and a schooner, both close-hauled, are sailing upon convergent courses, on the same tack, and the convergence is caused by the ability of the schooner to lie nearest the wind, the latter must give way."—(*Ib.*)

"In case of collision, where it appeared that one of the vessels had neglected an ordinary and proper measure of precaution, the burden is on her to show that the collision was not owing to that neglect."—*The Schooner Lion*, (40, 1, Sprague.)

"In cases of collision, where both vessels are to blame, the whole damages are to be equally divided between them; but the court may order the vessel most to blame to pay all costs."—*The Rivals*, 128.

"In case of collision, the owners of the vessel in fault are not exonerated from liability by having a pilot on board."—*The Julia M. Hallock*, (539, 1, Sprague.)

"The schooner, in getting under way, ran foul of a vessel at anchor. *Held*, that the schooner was *prima facie* liable."—(*Ib.*)

"In anchoring directly to leeward of another vessel, at a distance of 125 to 150 fathoms, is not of itself negligence."—*The Julia M. Hallock*, (539, 1, Sprague.)

"A windward vessel, short handed and further assistance expected, hove short before making sail, the anchor having previously dragged. *Held*, that this was an improper mode of getting under way."—(*Ib.*)

"A vessel lost by a collision is to be paid for at her value when lost. By the statute of 1851, chap. 43, sec. 3, the owners of the vessel in fault are liable to the extent of the 'freight then pending,' as well as the value of their vessel."—*Allen* vs. *Mackay*, (219, 1, Sprague.)

THE BRITISH MERCHANT SHIPPING ACT, 1854.
17° *and* 18°, *Victoriæ, cap.* 104.

AN ACT TO AMEND AND CONSOLIDATE THE ACTS RELATING TO MERCHANT SHIPPING.—[10th August, 1854.]

THE BRITISH MERCHANT SHIPPING ACTS, &C., AMENDMENT.
25° *and* 26°, *Victoriæ, cap.* 63.

AN ACT TO AMEND "THE MERCHANT SHIPPING ACT, 1854;" "THE MERCHANT SHIPPING ACT, AMENDMENT ACT, 1855;" AND "THE CUSTOMS CONSOLIDATION ACT, 1853."—[29th July, 1862.]

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"1. This act may be cited as 'The Merchant Shipping Act, Amendment Act, 1862,' and shall be construed with and as a part of 'The Merchant Shipping Act, 1854, hereinafter termed the Principal Act.'"

* * * * * * * * *

"SAFETY.—(PART IV, OF MERCHANT SHIPPING ACT, 1854.)

"Enactment of regulations concerning lights, fog signals, and sailing rules in schedule, Table C.

"25. On and after the first day of June, one thousand eight hundred and sixty-three, or such later day as may be fixed for the purpose by Order in Council, the regulations contained in the table marked C, in the schedule hereto, shall come into operation and be of the same force as if they were enacted in the body of this act; but Her Majesty may, from time to time, on the joint recommendation of the Admiralty and the Board of Trade, by Order in Council, annul or modify any of the said regulations, or make new regulations in addition thereto or in substitution therefor; and any alterations in or addition to such regulations made in manner aforesaid shall be of the same force as the regulations in the said schedule."

* * * * * * * * *

"*Rules for Harbors under Local Acts to continue in force.*

"31. Any rules concerning the lights or signals to be carried by vessels navigating the waters of any harbor, river, or other inland navigation, or concerning the steps for avoiding collision to be taken by such vessels which have been or are hereafter made by or under the authority of any local act, shall continue and be of full force and effect notwithstanding anything in this act or in the schedule thereto contained."

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RULES OF THE ROAD; OR, STEERING AND SAILING RULES OF GREAT BRITAIN.—JUNE 1, 1863.

"The Merchant Shipping Act, Amendment Act, 1862."

"TABLE C," (Sect. 25.)

REGULATIONS FOR PREVENTING COLLISIONS AT SEA.

Issued in pursuance of the Merch't Shipping Act, Amendm't Act, 1862.

CONTENTS.

Article 1. Preliminary.

Rules concerning Lights.

2. Lights to be carried as follows:
3. Lights for steamships.
4. Lights for steam-tugs.
5. Lights for sailing ships.
6. Exceptional lights for small sailing vessels.
7. Lights for ships at anchor.
8. Lights for pilot vessels.
9. Lights for fishing vessels and boats.

Rules concerning Fog-signals.

10. Fog-signals.

Steering and Sailing Rules.

11. Two sailing ships meeting.
12. Two sailing ships crossing.
13. Two ships under steam meeting.
14. Two ships under steam crossing.
15. Sailing ship and ship under steam.
16. Ships under steam to slacken speed.
17. Vessels overtaking other vessels.
18. Construction of Articles 12, 14, 15, and 17.
19. Proviso to save special cases.
20. No ship under any circumstances to neglect proper precautions.

PRELIMINARY.

Article 1. In the following rules, every steamship which is under sail, and not under steam, is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

RULES CONCERNING LIGHTS.

Article 2. The lights mentioned in the following articles, and no others, shall be carried in all weathers between sunset and sunrise.

Article 3. Sea-going steamships when under way shall carry—

(*a*) *At the foremast head* a bright white light, so fixed as to show an uniform and unbroken light over an arc of the horizon of twenty points of the compass, so fixed as to throw the light ten points on each side of the ship, viz: from right ahead to two points abaft the beam on either side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles.

(*b*) *On the starboard side* a green light, so constructed as to show an uniform and unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*c*) *On the port side* a red light, so constructed as to show an uniform and unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the port side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*d*) The said green and red side lights shall be fitted with inboard screens, projecting at least three feet forward from the light, so as to prevent these lights from being seen across the bow.

Article 4. Steamships, when towing other ships, shall carry two bright white masthead lights vertically, in addition to their side lights, so as to distinguish them from other steamships. Each of these masthead lights shall be of the same construction and character as the masthead lights which other steamships are required to carry.

Article 5. Sailing ships under way, or being towed, shall carry the same lights as steamships under way, with the exception of the white masthead lights, which they shall never carry.

Article 6. Whenever, as in the case of small vessels during bad weather, the green and red lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for instant exhibition, and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side, nor the red light on the starboard side.

NOTE.—In Article 2 the words *numbered* 3, 4, 5, 6, 7, 8, *and* 9, have been added after *the following Articles,* and the words *"between"* and *"and"* have been omitted, and *"from"* and *"to"* substituted by Order in Council, dated January 9, 1863.

To make the use of these portable lights more certain and easy, *they* shall each be painted outside with the color of the light they respectively contain, and shall be provided with suitable screens.

Article 7. Ships, whether steamships or sailing ships, when at anchor in roadsteads or fairways, shall, between sunset and sunrise, exhibit where it can best be seen, but at a height not exceeding twenty feet above the hull, a white light in a globular lantern of eight inches in diameter, and so constructed as to show a clear uniform and unbroken light visible all round the horizon, and at a distance of at least one mile.

Article 8. Sailing pilot vessels shall not carry the lights required for other sailing vessels, but shall carry a white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light every fifteen minutes.

Article 9. Open fishing boats and other open boats shall not be required to carry the side lights required for other vessels; but shall, if they do not carry such lights, carry a lantern having a green slide on the one side and a red slide on the other side, and on the approach of or to other vessels, such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side.

Fishing vessels and open boats when at anchor, or attached to their nets and stationary, shall exhibit a bright white light.

Fishing vessels and open boats shall, however, not be prevented from using a flare-up in addition, if considered expedient.

RULES CONCERNING FOG-SIGNALS.

Article 10. Whenever there is fog, whether by day or night, the fog-signals described below shall be carried and used, and shall be sounded at least every five minutes, viz:

(*a*) Steamships under way shall use a steam-whistle, placed before the funnel, not less than eight feet from the deck.

(*b*) Sailing ships under way shall use a fog-horn.

(*c*) Steamships and sailing ships, when not under way, shall use a bell.

Article 11. If two sailing ships are meeting, end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

NOTE.—In Article 6 the words "*the lanterns containing them*" have been substituted for "*they;*" and in Article 7 the words *between sunset and sunrise* have been omitted by Order in Council, dated January 9, 1863.

Article 12. When two sailing ships are crossing, so as to involve risk of collision, then, if they have the wind on different sides, the ship with the wind on the port side shall keep out of the way of the ship with the wind on the starboard side, except in the case in which the ship with the wind on the port side is close-hauled, and the other ship free, in which case the latter ship shall keep out of the way. But if they have the wind on the same side, or if one of them has the wind aft, the ship which is to windward shall keep out of the way of the ship which is to leeward.

Article 13. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

Article 14. If two ships under steam are crossing so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.

Article 15. If two ships, one of which is a sailing ship and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing ship.

Article 16. Every steamship when approaching another ship so as to involve risk of collision, shall slacken her speed, or, if necessary, stop and reverse; and every steamship shall, when in a fog, go at a moderate speed.

Article 17. Every vessel overtaking any other vessel shall keep out of the way of the said last-mentioned vessel.

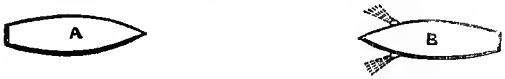
Article 18. Where, by the above rules, one of two ships is to keep out of the way, the other shall keep her course, subject to the qualifications contained in the following article:

Article 19. In obeying and construing these rules, due regard must be had to all dangers of navigation, and due regard must also be had to any special circumstances which may exist in any particular case rendering a departure from the above rules necessary in order to avoid immediate danger.

Article 20. Nothing in these rules shall exonerate any ship, or the owner or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

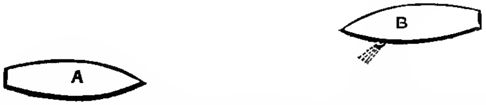
Diagrams to illustrate the use of the lights carried by vessels at sea, and the manner in which they indicate to the vessel which sees them, the position and description of the vessel that carries them.

When both *red* and *green lights* are seen.—A sees a red and green light ahead; A knows that a vessel is approaching her on a course directly opposite to her own, as B:

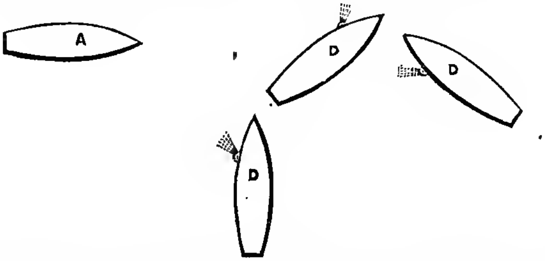


If A sees a white mast-head light above the other two, she knows that B is a steam vessel.

When the *red* and not the *green light* is seen.—A sees a red light ahead, or on the bow; A knows that either, first, a vessel is approaching her on her port bow, as B;

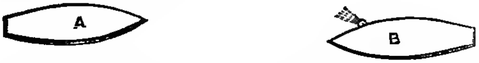


or second, a vessel is crossing in some direction to port, as D D D.

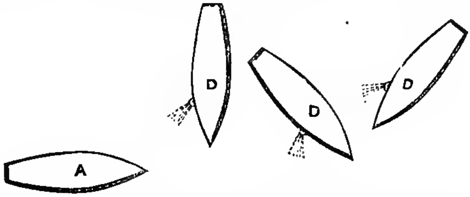


If A sees a white mast-head light above the red light, A knows that the vessel is a steam vessel, and is either approaching her in the same direction as B, or is crossing to port in some direction, as D D D.

When the *green* and not the *red light* is seen.—A sees a green light ahead or on the bow; A knows that either, first, a vessel is approaching her on her starboard bow, as B;



or, second, a vessel is crossing in some direction to starboard, as D D D.



If A sees a white mast-head light above the green light, A knows that the vessel is a steam vessel, and is either approaching her in the same direction as B, or is crossing to starboard in some direction, as D D D.

THE RULE OF THE ROAD AT SEA; OR, THE STEERING AND SAILING RULES OF GREAT BRITAIN.

Order in Council respecting the application of Articles 11 *and* 13 *of the Regulations as to two ships meeting each other end on or nearly on.*

[This order appears in the London Gazette of the 4th August, 1868.]

REGULATIONS FOR PREVENTING COLLISIONS AT SEA.

At the Court at *Osborne House, Isle of Wight*, the 30th day of July, 1868.

PRESENT:

The Queen's most Excellent Majesty in Council.

Section 25.

Whereas, by "The Merchant Shipping Act, Amendment Act, 1862," it was enacted that on and after the first day of June, one thousand eight hundred and sixty-three, or such later day as might be fixed for the purpose by Order in Council, the regulations contained in the table marked C, in the schedule to the said act should come into operation and be of the same force as if they were enacted in the body of the said act; but that Her Majesty might, from time to time, on the joint recommendation of the Admiralty and the Board of Trade, by Order in Council, annul or modify any of the said regulations, or make new regulations in addition thereto or in substitution therefor, and that any alterations in or additions to such regulations made in manner aforesaid should be of the same force as the regulations in the said schedule.

Sections 58 *and* 61.

And whereas, by the same act, it was further provided that whenever it should be made to appear to Her Majesty that the government of any foreign country is willing that the regulations for preventing collision contained in Table C, in the schedule to the said act, or such other regulations for preventing collision as are for the time being in force under the said act, should apply to the ships of such country when beyond the limits of British jurisdiction, Her Majesty might, by Order in Council, direct that such regulations shall apply to the ships of the said foreign country whether within British jurisdiction or not; and it was further provided by the said act that whenever an Order in Council had been issued applying any regulation made by or in pursuance of the said act to the ships of any foreign country, such ships should in all cases arising in any British court be deemed to be subject to such regulation, and should for the purpose of such regulation be treated as if they were British ships;

And whereas, by an Order in Council made in pursuance of the said recited act, and dated the ninth day of January, one thousand eight hundred and sixty-three, Her Majesty was pleased to direct:

First. That the regulations contained in the schedule to the said act should be modified by the substitution for such regulations of certain regulations appended to the said order;

Second. That the said regulations appended to the said order should, on and after the first day of June, one thousand eight hundred and sixty-three, apply to French ships whether within British jurisdiction or not;

And whereas, by several Orders in Council subsequently made, Her Majesty has been pleased to direct that the regulations appended to the said order of the ninth of January, one thousand eight hundred and sixty-three, shall apply to ships of the following countries, whether within British jurisdiction or not—that is to say:

Austria.
Argentine Republic.
Belgium.
Brazil.
Bremen.
Chili.
Denmark Proper.
Equator, Republic of the.
France.
Great Britain.
Greece.
Hamburg.
Hanover.
Hawaiian Islands.
Hayti.
Italy.
Lubeck.
Mecklenburg-Schwerin.
Morocco.
Netherlands.
Norway.
Oldenburg.
Peru.
Portugal.
Prussia.
Roman States.
Russia.
Schleswig.
Spain.
Sweden.
Turkey.
United States, sea-going ships.
United States, Inland Waters.
Uruguay.

And whereas Articles 11 and 13 of the said regulations appended to the said recited order of the ninth of January, one thousand eight hundred and sixty-three, are as follows—that is to say:

Article 11.—"If two sailing ships are meeting end on or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other."

Article 13.—"If two ships under steam are meeting end on or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other."

And whereas there has been doubt or misapprehension concerning the effect of the said two articles:

And whereas the Admiralty and the Board of Trade have jointly recommended to Her Majesty to make the following additions to the said regulations for the purpose of explaining the said recited articles, and of removing the said doubt and misapprehension:

Now, therefore, Her Majesty, by virtue of the powers vested in her by the said recited act, and by and with the advice of Her Privy Council, is pleased to make the following additions to the said regulations by way of explanation of the said two recited articles—that is to say:

The said two articles, numbered 11 and 13 respectively, only apply to cases where ships are meeting end on or nearly end on *in such a manner as to involve risk of collision.* They, consequently, do not apply to two ships which must, if both keep on their respective courses, pass clear of each other.

The only cases in which the said two articles apply are when each of the two ships is end on or nearly end on to the other—in other words, to cases in which *by day* each ship sees the masts of the other in a line or nearly in a line with her own, and *by night* to cases in which each ship is in such a position as to see both the side lights of the other.

The said two articles do not apply *by day* to cases in which a ship sees another *ahead* crossing her own course; or *by night* to cases where the red light of one ship is opposed to the red light of the other; or where the green light of one ship is opposed to the green light of the other; or where a red light without a green light, or a green light without a red light, is seen ahead; or where both green and red lights are seen anywhere but ahead.

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"ARRANGEMENTS CONCERNING LIGHTS, SAILING RULES, * * * * IN THE CASE OF FOREIGN SHIPS.

"*Foreign Ships in British Jurisdiction to be subject to Regulations in Table (C) in Schedule.*

"57. Whenever foreign ships are within *British* jurisdiction, the regulations for preventing collision contained in Table (C) in the schedule to this act, or such other regulations for preventing collision as are for the time being in force under this act, and all provisions of this act relating to such regulations, or otherwise relating to collisions, shall apply to such foreign ships; and in any case arising in any *British* court of justice concerning matters happening within *British* jurisdiction, foreign ships shall, so far as regards such regulations and provisions, be treated as if they were British ships.

"*Regulations, when adopted by a foreign country, may be applied to its ships on the high seas.*

"58. Whenever it is made to appear to Her Majesty that the government of any foreign country is willing that the regulations for preventing collision contained in Table (C) in the schedule to this act, or such other regulations for preventing collision as are for the time being in force under this act, or any of the said regulations, or any provisions of this act relating to collisions, should apply to the ships of this country when beyond the limits of British jurisdiction, Her Majesty may, by Order in Council, direct that such regulations, and all provisions of this act which relate to such regulations, and all such other provisions as aforesaid, shall apply to the ships of the said foreign country, whether within British jurisdiction or not."

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"*Effect of Order in Council.*

"61. Whenever an Order in Council has been issued under this act, applying any provision of this act, or any regulation made by or in pursuance of this act, to the ships of any foreign country, such ships shall, in all cases arising in any British court, be deemed to be subject to such provision or regulation, and shall, for the purpose of such provision or regulation, be treated as if they were British ships."

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"*Orders in Council may be revoked and altered.*

"63. Her Majesty may by Order in Council from time to time revoke or alter any order previously made under this act.

"*Orders in Council to be published in London Gazette.*"

COLLISIONS.

ILLUSTRATIONS OF THE BRITISH RULE OF THE ROAD BY ADMIRALTY COURT DECISIONS.

"The collision of vessels at sea may arise from mere accident, or from a misfortune which may occur by one vessel running down or being run down by another, or by being driven against another, or by two coming in contact; and the four possibilities under which such a disaster may occur have been thus very clearly stated by the late Lord Stowell, then the very learned Judge of the High Court of Admiralty in Great Britain.

"There are four possibilities under which an accident of this sort may occur.

"In the first place, it may happen without blame being imputable to either party, as when the loss is occasioned by a storm or *any* other *vis major;* and in that case, the misfortune must be borne by the party on whom it happens to light, the other party not being responsible to him in any degree.

"Secondly, a misfortune of this kind may arise where both parties are to blame—where there has been a want of due diligence or skill on both sides. In such a case, the rule of law is that the loss must be apportioned among them, as having been occasioned by the fault of both.

"Thirdly, it may happen by the misconduct of the suffering party only; and then the rule is, that the sufferer must bear his own burden.

"Lastly, it may have been the fault of the ship which run the other down; and, in this case, the injured party would be entitled to an entire compensation from the other.*

"In the case of *The Commerce*, (3, Rob. Ad. R., 287,) where a close-hauled vessel on the port tack and a starboard-tacked vessel with the wind free met each other, and neither gave way in time so as to avoid the probability of a collision, it was held that both vessels were equally in fault; but that the former was not justified in keeping her luff, but, where practicable, she was bound to take the necessary precautions for avoiding the collision, though the other vessel was acting wrong in not bearing away.

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* *The Woodrop* (2, Dod. Ad. R., 83.)

"In the case of *The Eclipse* and *The Saxonia*, (8, Jur., n. s., 315,) it was held that it is the law and the rule of the sea that a vessel having the wind free, is to give way to a vessel close-hauled, and that a vessel under steam is always to be considered as going free.

"In the case of *The Maddox* vs. *Fisher—The Independence* (9, W. R., 582)—the rules that when a steam or sailing ship proceeding in one direction *meets* another steam or sailing ship proceeding in another direction, so that, if both vessels were to continue their respective courses, they would pass so near as to run any risk of a collision, the helms of both ships must be put to port, so as to pass on the port side of each other, and that the ship by which this rule has been broken shall not recover damage, it has been held, apply only to cases in which the vessels *meet end on*, and when the observance of the rule would make the vessels so to turn away from each other as to pass port side to port side.

"In the case of *The Arthur Gordon* and *The Independence*, (1, Lushington, 276,) when, in the open sea and in the day time, a sailing vessel, close-hauled on the port-tack, and a steamer towing a large ship were standing so as to cross each other's bows, the steamer being on the lee beam of the sailing vessel, and a collision took place, it was held that the sailing vessel was to blame *for holding her reach*, and the steamer was also to blame for taking no measure to avoid collision.

"In the case of *The Rob Roy*, (3, W. Rob., 190,) as steam vessels navigate according to prescribed rules as to the number and color of lights to be carried, it is essential that the commander of each vessel have his lights properly trimmed and burning; and where the green light of one steam vessel had gone out previous to the collision with another steam vessel, the defence of the latter vessel that the master (commander,) upon the supposition that the approaching vessel was a sailing vessel, acted in conformity with the general rules of navigation by porting his helm, was sustained.

"In the case of *The Araxes* and *The Black Prince*, (5, L. I., n. s., 39,) where two steamers were approaching each other in opposite and parallel directions, and saw the lights of each other several miles off, the one, when coming near, put her helm hard aport, and the other put her helm hard astarboard, and collision followed, it was held that a vessel obeying the rule has a right to trust that the vessel she meets, if a British* vessel, will obey it also; and therefore, when the one steamer, a mile and a half off, starboarded instead of porting her helm, she was, at first sight, in the wrong, though, if both had starboarded at that time, the risk of collision would have been equally avoided.

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*Or of any other nation having such treaty stipulation, and having adopted the British Merchant Shipping Amendment Act of 1862, and the rules based upon it.—See Act of Congress approved April 29, 1864.

"In the case of *The Friends*, (1, W. Rob., 478,) where a collision took place on the Thames between the steamer *Menai* and the schooner *The Friends*, the *Menai* was coming up the river, on the Kentish shore, distant about one-third of the whole breadth of the reach, the night being dark, the tide ebbing, and the wind blowing strong from the west, when a vessel was observed coming down the river just open over the starboard bow, and, as soon as the vessel was reported, the helm of the *Menai* was put to starboard, in the full belief that the schooner would keep down the mid-channel, in order to go down with the strength of the tide; it was held that the steamer was to blame for putting her helm to starboard and the schooner had conducted herself properly.

"When one ship is injured or run down by the fault of another, the injured ship obtains full reparation. When one ship was light and had the wind free, and another was laden and close-hauled to the wind, and the latter was run down by the former, (Per Bayley, B., in Vennal *vs.* Garner, 3, Tyrwh., 86,) it was said from the bench: 'The plaintiff's ship was not in fault in steering as she did, for she had a right to expect that the defendant's ship, which had the wind and might go as large as she pleased, would do that which ought to be done, and would make way.' 'The fault was wholly that the defendant, having the wind, did not make way for the plaintiff's ship, as he should have done.'

"In the case of *The Margerton*, (2, Jur., N. S., 620,) it was held that as it is incumbent on ships, under ordinary circumstances, to port their helms when approaching should there be danger of collisions; and vessels must so act towards each other upon the presumption that that rule will be acted on; and, therefore, a sailing vessel not having ported her helm in sufficient time, and not having the proper regulation lights, having been run into by a steamer, that the steamer was not to blame for the collision.

"In the case of *The Dumfries*, (1, Swabay, 125,) one vessel was steering north with a fair wind, and another vessel was on the starboard tack and close-hauled; the rule of the sea in such a case being that the former should go astern of the latter—it was held that, notwithstanding the rule in Section 296 of the Merchant Shipping Act, the latter vessel was entitled to keep on her course, presuming that the former would give way to her; and the former vessel not having seen the latter till it was too late, and having then ported her helm, which led to a collision, it was held that the former vessel was not entitled to recover.

"It has also been held in the case of *The James*, (1, Swabay, 60,) that Section 296 is not confined to cases where one vessel only is in fault, but applies also to the case of vessels lying to; and in the case of '*Morgan* vs. *Sim*,' (11, Moore's P. C. C., 307,) it was held that it lies on the party seeking to recover damages for a collision to prove that the loss was occasioned by the fault or neglect of the other party, otherwise he cannot recover. [The rules as to ships' lights and meeting and passing in Sections 295, 296, 297, 298 and 299, of the Merchant Shipping Act, 1854, have been repealed, and those based upon the Merchant Shipping Act, Amendment Act of 1862 substituted, and are now in force, as set forth in 'Table C, Sec. 25.']—*See ante.*

"It has been held that a vessel close-hauled on the port (larboard) tack ought never to put her helm alee; and, therefore, the *James* was condemned because she threw herself in stays when in danger of collision with another vessel sailing free.

"It is held that whenever vessels on the *starboard* tack were justified in putting down the helm, it has been with the hope of escaping contact, and not tacking in pursuance of a prior intention. The Admiralty judge has repeatedly declared it to be not merely the right, but the *duty** of a vessel close-hauled meeting another *free*, or of a vessel close-hauled on the starboard tack meeting another on a wind, also 'to hold her course without deviation;' but the privilege is not to be insisted upon when the existence of the right to use it admits of the slightest doubt. It was decided, in the case of the 'Traveler,'† that, as *at night* a vessel close-hauled *on the larboard (port) tack can never be quite sure* whether a sail seen approaching her lee bow is close up to the wind or a little from it, it is the duty of the former *to port her helm and bear away, even though the other may have the wind quite free.*

"The cases of convergent courses on opposite tacks may be classed under the following general combinations:

"No. 1.—*Both vessels close-hauled on opposite tacks.*

"The ship on the port tack should port her helm and bear away.

"No. 2.—*Both ships on opposite courses, wind free.*

"The ship *on the port tack* ports her helm and bears away. The one on the *starboard* tack holds her course, or slightly ports her helm.‡

"No. 3.—*A ship close-hauled on the starboard tack and one with a free wind on the port tack are crossing in an angular direction, and the latter having a free wind, is on the windward side of the former, close-hauled.*

"The helm of the ship sailing free should be starboarded, and she pass to windward, going astern of the other.

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* See the "Harriet," 1, Rob., jr., 182; "Hope, 1, Rob., jr., 154," &c.

† Case of "Harriet," 7, Jurist, 1044.

‡ The old Trinity rules did not provide for the case of a vessel dead before the wind, and crossing another having a fair wind on her side. The safest course would seem to be for the vessel before the wind to pass astern of the one having the wind on her side.

"No. 4.—*The vessels are sailing as in No. 3, but the one with the wind free is on the leeward side of the track of the other, close-hauled.*

"The helm of the vessel sailing free should be *ported,* and she should pass to leeward of the other.

"No. 5.—*Vessels sailing as in No 3, but approaching 'end on.'*

"The free vessel should port her helm and go before the wind.

"No. 6.—*A close-hauled ship on the port tack and one with a free wind on the starboard side are crossing in an angular direction, and the free vessel is on the windward side of the track of the former.*

"The free vessel should *port* her helm and pass to windward and astern of the close-hauled vessel.

"No. 7.—*The vessels sailing as in case No. 6, but the one with the wind free is on the lee side of the other.*

"The helm of the vessel sailing free should be starboarded, and she should pass to leeward of the one close-hauled.

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"There are at present two distinct rules for the navigation of vessels at sea, the old maritime rule and the rule of the port helm, as it is called.

"The old maritime law of the sea provides generally, *That a vessel going free shall give way to a vessel on a wind; that a vessel close-hauled on the port tack shall give way to a vessel close-hauled on the starboard tack; and that a steam vessel shall always give way to a sailing vessel.* These are the rules which the Admiralty still prescribes for the guidance of the Queen's ships, and it is by this law that collisions between foreign merchant vessels, or between foreign and British merchant vessels, are decided.

"The rule of the port helm, as at present applied, is a statutory regulation of comparatively recent origin. In general terms, the rule, as laid down in the 296th section of the Merchant Shipping Act, is, *That when two vessels are meeting one another, so as to involve a risk of collision if they continue their respective courses, both shall port their helms, so as to pass one another on the port hand.*"

NOTE.—The question as to the law by which a collision on the high seas between a British and a foreign vessel should be determined was very fully considered by the learned judge of the Court of Admiralty in the case of the "Pet" *v.* the "Zollvereiu," reported in the Shipping Gazette of the 25th of April, 1856, where that learned judge held that the case must be decided by the maritime law, and not by the statute law of Great Britain. In that case the "Zollverein," the foreign vessel, was clearly to blame, and the question was whether the

THE EUROPA AND CHARLES BARTLETT.

Decision of an Appeal from the Admiralty Court to the House of Lords.

The following case of the *Charles Bartlett* and *Europa* is quoted at length here as it serves to show how steamers are held to blame from being considered in the light of vessels with a free wind, and, therefore, capable of avoiding collision. It is an appeal from the decision of the Admiralty Court to the House of Lords:

"This case is one of extreme importance with reference to the magnitude of the subject at stake. But it is a case in which, having heard all that can be said on the part of the appellants, and having had an opportunity, since the matter was last before this court, to consider the effect of the evidence adduced, their lordships have come to the conclusion, without any doubt whatever, that the judgment of the court below was correct; therefore, we need not trouble the counsel for the respondent to address us.

"It is to be observed that this is a suit instituted by the owners of the barque *Charles Bartlett* against the steamer *Europa*, and there are several other actions to abide the result. That a most fearful collision did take place is a matter that admits of no doubt; there is no doubt that the *Europa* ran into and sank the *Charles Bartlett*, with all her cargo and the greatest part of her passengers and crew; for that, the owners of the *Charles Bartlett* seek reparation, and before they can sustain this judgment in its integrity, they have to make out two propositions: first of all, that this was occasioned by the misconduct of the *Europa*, and next, that they were not to blame themselves. I wish to guard myself in saying they are to make out that, because I understand

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"Pet," the British vessel, was not also to blame. The "Pet" had kept her course up to the time of the collision. By the statute law (the 296th section of the Merchant Shipping Act) she was bound to have ported her helm, but by the maritime law she was justified in keeping her course. The court held that the collision having taken place with a foreign vessel, which was clearly not subject to our statute law, the case must be decided by the general maritime law, and that, consequently, the "Pet" was not to blame, although she had in fact violated our statute law by not porting her helm.

The same principle was also laid down by the same learned judge so late as the 29th of January last, in the case of the "Alert" *v.* the "Activ," reported in the Shipping Gazette of that day; and where he observed that, "This being a collision between a foreign and an English ship, we have nothing to do with the act of Parliament; we may leave it out of consideration, and our judgment must be governed by the ordinary rules of navigation among civilized nations."

And on the 17th of the same month, in the case of the "Camilla" *v.* "the Christiana," the same learned judge, in addressing the Trinity Masters observed: "Gentlemen, this collision having taken place between an English vessel and an American, the question has been raised by what law we are to consider the merits of the respective parties. Upon that head there is no doubt whatever that the judgment must be governed by the maritime law, which we consider to be the maritime law of the world, which is in use among all nations, without reference to any act of Parliament which may be passed for the guidance of British vessels."

it to be a matter of difference in the Court of Admiralty upon whom the onus lies; but it is not necessary to enter into the abstract question here, because their lordships have come to the clear conclusion that the *Europa* was to blame, and the *Charles Bartlett* was not. At all events, the *Charles Bartlett* was not to blame in anything that contributed to the accident.

"Now, with regard to the *Europa*, the way it was put by the learned judge of the Admiralty Court is this; he says: 'Was the *Europa* to blame for going twelve and a half knots an hour during a fog, which it is admitted to have been in the locality described? Secondly, whether she was to blame for not having an adequate watch? Thirdly, was there any neglect in the engineering department? Fourthly, whether the order given to starboard, which it is admitted was an erroneous order, was or was not carried into execution, so as to produce any effect? The fifth will be a general question, whether the collision was the consequence of this state of things?'

"Now, the first question put is, 'Was the *Europa* to blame for going twelve and a half knots an hour during a fog, which it is admitted to have been, in the locality specified?' Now, the report on that subject, if I may give that name to it, was, that no positive rule can be laid down as to the rate at which a steamer may or may not travel on the ocean; no positive rule can be laid down; and I think it may also be said (I do not know whether it does go to that length) that no positive rule can be laid down as to what rate a steamer may or may not go during a fog. Fog is a word which admits of such infinite differences of degree, that no rule can be laid down applicable to every case of every fog. But their lordships are of this opinion—that this may be safely laid down as a rule on all occasions, fog or clear, light or dark—that no steamer has a right to navigate at such a rate that it is impossible for her to prevent damage, taking all precaution at the moment she sees damage to be possible or probable; and if she cannot do that without going at less than five knots an hour, then she is bound to go at less than five knots an hour, as will probably be the case in coming up the Thames. In the middle of the Atlantic much greater latitude may be allowed; but neither in the Atlantic nor anywhere else, can any ship be navigated at such a rate that it is impossible for her to avoid doing damage, discovering only the impendency of damage at the moment when it is impossible to avoid it.

"Taking that as the turning point on which our judment is to go, let us see what the evidence is on that subject. It appears by the log of the *Europa*, '3h. 30m., dense fog, could not see more than a ship's length ahead:' that is their own statement of the state of the atmosphere; they were going twelve and a half knots an hour. Was it or was it not possible, in that state of things, to avoid running foul of the ship, if they discovered, at the distance of seventy-five yards from her own head, a sailing vessel? I say seventy-five yards distance, that is about the length of the ship, or 100 yards? What is the evidence on that subject? There is a conflict of testimony. There have been examined ten witnesses on that point, six of them persons that were on board the ship, the *Europa*, at the time of this unfortunate accident. One is Douglas Reid, the Admiralty Lieutenant—he was in charge of the mails; Wardell, the second officer of the *Europa;* Coates, an able seaman; White, an able seaman; Fern, an able seaman; and Campbell, an able seaman. Lieut. Reid says he is of opinion that she could stop herself, by which I understand not literally stop but so as to get out of the way of doing damage, if she discovers anything within her own length. So say White and Fern, two of the able seamen. Coates, an able seaman, and Campbell, an able seaman, say that, in their opinion, she cannot do it if she is going twelve and a half knots an hour, and discovers something for the first time 100 yards distant; it is impossible to stop. The expression of another person is, 'Stop her, and get out of the way,' and that is the meaning of all the witnesses.

"Then, in addition to the parties on board the ship, they have examined also three captains of other ships belonging to the same company, Shannon, Lang, and Judkins; and all of them, without exception, say they conceive it impossible, discovering anything merely at the distance of a ship's length, to get out of the way. That is entitled to the more weight because one of them, Shannon, begins by saying, 'I think she could,' but he corrects himself by saying, on further consideration, 'I think she could not.' Of the same opinion is a person named Bellhouse, a passenger on board; so far as his testimony goes, she could not.

"Take the evidence to be correct on that subject, that the *Europa* was navigated at a rate which made it impossible for her to avoid collision with a ship, discovering it only at the distance at which alone it could be discovered, it appears to us to follow, as an inevitable consequence, that she was sailing at a rate of speed at which it was not lawful for her to navigate.

"But there is a little conflict of the evidence on that subject. Conflict of evidence is often a matter difficult to deal with, but, fortunately for the ends of justice here, it appears to their lordships that it will make no difference, because if the evidence of three of the witnesses be the correct view of the case, and if it were possible to avoid the collision, discovering the ship her own length off only, no further than that, then we come to the other point, why did not the *Europa* get out of the way? Therefore it appears reducible to the position *quicunque via*. The *Europa* admits herself, or it must be admitted, the *Europa* was materially to blame.

"That being so, it is not necessary to discuss the other grounds of blame alluded to in the Court of Admiralty; but their lordships are of opinion that probably on the other points, certainly on most of them, the judgment was quite correct. I say the evidence on these points satisfies us she was to blame. Was she to blame for not having an adequate watch? It is proved, it was admitted by Dr. Addams, and it must be taken to be the fact, that there was only one eye looking out on the occasion in question. Without professing to know anything of nautical affairs in a ship going at this enormous rate in a part of the Atlantic, where, though there is a difference in the evidence, it was probable she would encounter other ships, it was very imprudent and improper not to have more than a single eye on that look-out. The naval gentlemen whose assistance we have had, tell us that it is clearly their opinion that a ship under these circumstances ought to have had more than one eye looking out. If that had been so, I do not know that a difference of result would have happened, but it might have been so, and it is clear they were guilty of great negligence in not having a better look-out.

"Was there any neglect in the engineering department? If anything turned upon that, some of us might have wished further time to consider the evidence, but if we are called upon to express our opinion off hand, we should say the preponderance of the evidence is, that there was not sufficient attention. There should have been a person at the crank hatch to communicate the orders. That is the opinion we have formed; but if that had been any of the blame we attribute, we should have wished more time to consider it. It is idle, however, to stop to consider it in a case where the result must be the same, let it be one way or the other.

"It is admitted that a wrong order was given to starboard the helm. There, Lieut. Reid says, he is of opinion that she could stop herself, by which is a doubt whether that was to any extent carried into execution. Certainly, it was only to a small extent, if to any extent. It was a wrong order, and probably it a little interfered with larboarding the helm; probably to a minute extent, indeed. Whether it contributed to the accident, it might be unsafe to speculate upon. Whether it was executed, is a matter on which we do not feel called to give a positive opinion, inasmuch as it would not have turned the case one way or the other.

"For all these reasons their lordships have come to the conclusion that the *Europa* was to blame—very much to blame, on the grounds I have stated.

"With regard to the *Charles Bartlett*, was the *Charles Bartlett* to blame? The questions put by the learned judge of the Admiralty Court are these: Was she to blame for want of a good look-out? Was she to blame in not having heard the *Europa* sooner; not sounding a horn, or any other neglect, or anything unseamanlike in any part of her conduct?

"Now, the only part of the case in which there was any semblance of blame to be imputed to the *Charles Bartlett* was, the question of the alleged want of a sufficient look-out. On that point, all the evidence that there is, tends to show most strongly that there was a sufficient look-out; but undoubtedly there was considerable force in the observations pressed by Dr. Addams, that the party who probably best knows about what sort of a lookout there was has not been examined at all. That is a very fair and legitimate observation. We, however, have come very strongly to the opinion, on the evidence, that there was a good look-out, and what we might have done as to examining the man, if we had thought this was a material question, it is not necessary for us to decide; because we have all come to the conclusion, that whether there was a good look-out is quite immaterial to the case when we are of opinion that everything, whether there was a look-out or not, that could be done was done. We are clearly of opinion that the *Charles Bartlett* did everything which, under the circumstances, she was called upon to do; and that no look-out could have afforded the opportunity of doing more.

"Now, the *Charles Bartlett*, it is to be observed, was under circumstances in which, according to the laws of navigation, she was entitled to keep her course. Of course, it will not be understood that their lordships mean to lay down any rule, varying as it would from rules laid down before, and which are analogous to rules about keeping the road, such as are frequent at common law. Their lordships do not mean to lay down the rule that a ship, though entitled to keep her course, is to do so when under special circumstances it is obvious it will lead to instead of avoiding accident. All these general rules must be held to be rules bending to circumstances, but, *prima facie*, a party entitled to keep his course has nothing else to do than keep his course. That was the position in which the *Charles Bartlett* was placed; she keeps her course, and, according to the evidence, she states that when the ship was at the distance of 300 or 400 yards she endeavors not to insist on her right, but endeavors to prevent the collision by getting out of the way, and doing everything that could be done, beyond what a party entitled to keep her course, perhaps, was bound to do. That being so, we can impute no blame to her; and we are of opinion, that if all the passengers and the crew had been engaged in looking-out, it could have made no difference at all.

"The same principle disposes of the point of whether she was not to blame in not having heard the *Europa* sooner. Now, on that subject we think, with reference to that, the circumstance that she was keeping her course is very important, because a ship keeping her course is only bound to go on and keep her course, not anticipating and watching that other persons are coming. If she had heard something was coming, she would have been entitled to consider that it would come so as not to do her damage. Therefore, it appears to their lordships that it is beyond the question, and is not worthy of attention.

"With regard to the noise on board their own ship, it is suggested there was dancing and a violin on deck, I do not think that is made out. It was below, and whether it was going on at that time is not made out, but the noise that is made out is the noise of coppering a rail. A ship that is lying her course in the middle of the day, if a rail requires coppering, is entitled to have it coppered. It is not pretended there was more noise than was necessary to copper the rail; therefore that could not be a matter of complaint on the part of the *Europa*. It is said, indeed, that the coppering of the rail took off the attention of one of the parties that ought to have been on the look-out, namely, the mate; and that he was not so engaged. But their lordships can pay no attention to that argument. The party looking out might in a certain sense do the coppering. His business in looking out was to walk with his eyes to the horizon; but that does not mean he is not to turn his eyes off and see what a man is doing. All these expressions, 'look-out,' are to be taken in the common sense. He might do that and look after the man coppering the rail.

"On these grounds their lordships have come to the opinion that the accident was without default on the part of the *Charles Bartlett*, and was through the neglect of the *Europa*. The consequence will be that the appeal will be dismissed with costs. The other cases will follow that decision."

The foregoing decision has no doubt occasioned much surprise among our nautical readers, who would one and all agree that to stop any ship's way in her own length, let her be going at whatever rate she may be, is purely chimerical. But we recommend to their attention, not the obvious impossibility of the quality required in a steamer, but the spirit from which it is laid down as law, and one which is much complained of by steamboat proprietors. Under all circumstances, a steamer meeting or passing a sailing vessel is to be considered not only as a vessel running free, and therefore capable of altering her course to either side of that on which she is steering, but also as having the means of avoiding collision with a sailing vessel by some means or other, even to stopping herself suddenly within her own length! A warning this may be to the commanders of steamers in general, to give sailing vessels as much as they possibly can, and on all occasions of meeting or passing them to give them a wide berth. If they do not, and by any mishap a collision ensues, they will suffer the consequences under the *peculiar* power with which they are here invested in being able to stop within their own length.

DISCUSSIONS AND CRITICISMS.

"In the British Parliament on Monday, the 28th of May, 1867, Mr. Holland asked the First Lord of the Admiralty whether it was the intention of Her Majesty's government to adopt any measures for the purpose of preventing 'the loss of life at sea,' and whether the communication of the Admiralty with the Board of Trade and Trinity House, on the subject of the 'Steering and Sailing Rules' and 'the exhibition of light,' would lead to any alteration and improvement of these rules?

"Mr. Corry said, 'the Admiralty had been in communication with the Board of Trade on the subject, but no decision had as yet been arrived at with respect to it. The question was an international one, which added to the difficulty of dealing with it.'

"On Friday, December the 6th, 1867, Mr. Holland asked the Vice President of the Board of Trade 'whether any alterations were contemplated in the Rules of the Road at Sea, with a view of avoiding the constant collisions under the present system?'

"Mr. Cave said: 'No sir, no alterations are contemplated in the Rules of the Road at Sea.' Collisions are not caused by observance, but by neglect or misconception of those rules. The Board of Trade has just completed a set of simple diagrams, explaining in the clearest manner the way in which vessels should comply with 'the Rules of the Road' under every circumstance. These diagrams are in accordance with the views of the Trinity House, and are under the consideration of the Admiralty. We are only waiting for their official confirmation to submit the papers to the Judge of the Admiralty Court, and the Judicial Committee of the Privy Council, by whom questions relating thereto are eventually decided. When an authoritative interpretation of these rules is thus obtained, I believe that accidents resulting from misconception will be very rare. I laid on the table, a few days ago, papers which fully elucidate these points." * * * * * *

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Note.—See Order in Council respecting the application of Articles 11 and 13 of the Regulations as to two ships meeting each other "end on, or nearly end on." Published in the London Gazette of the 4th August, 1868.

It may be observed that the criticisms in England upon the Admiralty "Steering and Sailing Rules" are chiefly upon the 13th and 14th articles, the two which affect steamers meeting or crossing, viz:

ARTICLE 13. "If two steamships under steam are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other."

And—

ARTICLE 14. "If two steamships under steam are crossing, so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other."

It is contended by many seamen and others that while the meaning of "end on" is in a line with the keel, that of "nearly end on," is too indefinite, and to many incomprehensible in the absence of any authoritative definition.*

In a case cited the learned judge said: "But when it is recollected that the order to hard-a-starboard was given by the steamer when the tug was but *two points* on her starboard bow, it seems clear that the proper article to apply to the position is the 13th;" and again, "we attribute the collision to the" * * * * "for not having *ported* and slowed and reversed in time, when she had the tug *two points* on her starboard bow."

In another case the court said: "In order to excuse her from *porting* it must be quite clear that there are *three points* of difference and not less, for surely it would never do to contend, where they were so nearly meeting end on, that if the evidence should be that it was only *one* or *two points* only in the direction they were meeting, that that would be sufficient to dispense with the observance of this rule."

And in another case reported the court said: "Part of the evidence says, that they were within *two points* of meeting 'end on.' I should consider that if they were within *two points* of meeting end on, they would fall in with the latter part of the statement, 'nearly end on.'" It has been said that if the foregoing decisions are in conformity to a true construction of the law, it would seem "*that, if two steamers are meeting, instead of keeping out of the way they shall adopt the only course which will endanger a collision.*"

Such, it may be inferred, was the impression of Mr. Holland, who after having, from his place in Parliament, on February the 23d, 1867, asked the First Lord of the Admiralty "whether the attention of the government had been called to the existing 'Steering and Sailing Rules,' and whether it was intended to cause any inquiry to be made as to their efficiency, with a view to prevent disasters arising from collisions at sea," addressed the following letter to the First Lord of the Admiralty on February the 24th:

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* See explanatory order of August, 1868.

"You concluded your satisfactory reply to my question last night by stating your intention of conferring with the Board of Trade and Trinity House on the subject of rendering the existing 'Steering and Sailing Rules' more simple and effectual; but from what fell from you, I am afraid that you mean to confine yourself to the consideration of 'exhibition of lights.' Is it not also desirable to put an end to the impression that 'rule of road' is identical with 'port helm?' Suppose a vessel, A, has another, B, on her starboard bow, does not the obligation to 'port her helm' put A across the path of B? At times, too, when in darkness or fog it is impossible to judge of distance, or to know the precise direction of an approaching ship's head, or which way she is steering? At present it is impossible for two approaching vessels to know when to act under the same rule. A may think that B is 'end on,' or 'nearly end on;' B, on the other hand, may have A two or three points on the starboard side, so the one acts in accordance with Article 13, and the other follows the instructions of Article 14, and a collision ensues, (as occurred in the case of the 'Nada' and the 'Bhima' in the Red Sea:) the latter tried to 'keep out of the way,' and was condemned by the court for doing so. She was run into on a fine night, and sunk, with a loss of 79 lives. Let me also draw attention to a correspondence between Messrs. McTear & Co., of Belfast, and the Admiralty, in December, 1854.

"(Signed) ED. HOLLAND.

"To the Right Hon. Sir John Pakington, Bart., M. P., Admiralty."

Mr. Thomas Gray of the Board of Trade and author of the "Rule of the Road for Steamers in Four Verses," is reported to have said in an address he delivered: "To the navigator who suddenly *ports* his helm, without observing caution, and without judgment, the colored light of a ship, like the light of a candle to a moth, is certain destruction; and again, the shipmaster who, the moment that danger is imminent, *ports* rashly, and as it were, from an evil instinct, is not the master of *any one of the ships in my diagrams;* and I think my time will not be lost if I arouse any one of you to study the new 'Steering and Sailing Rules,' and to think, and speculate, upon the fatal evils that result from the unauthorized, indefensible, yet almost universal use of the port helm, when ships approach each other."

It is contended by the critics and objectors to the "rules" that the interpretation of the law does not now rest with any one connected with the Board of Trade or the Admiralty, and that, therefore, the question is whether the impression has been made upon the minds of mariners that "Rule of the Road" is identical with "*port helm*," and that the obligatory use of the port helm is both authorized and defensible or not.

In a case reported of a collision between a steamer and a schooner, the schooner was on the steamer's *starboard bow*, (a steamer is bound to get out of the way of a sailing ship, and had only to hold on her course, or to starboard the helm,) but the helm was put to *port*, and *hard-a-port*, and the schooner was sunk.

In the case of the "Amazon" and the "Osprey," the Judge of the Admiralty Court remarked "that the Sailing Rules, though not having a parliamentary obligation as against vessels of Her Majesty's Navy, were, nevertheless, considered equally binding upon them, and rightly so, otherwise the confusion would be incalculable;" and in the case of the "Bruckenholme" *v.* H.M.S. "Supply," the Queen's Advocate stated, "perhaps it may be useful for me to state that, though those in charge of Her Majesty's vessels are not bound by the ordinary sailing regulations, instructions are issued to them which are precisely in accordance with those regulations;" but is the Queen's Advocate quite sure upon this point? for the captain, officers, petty officers, and men of the "Amazon," while standing on the deck of the "Victory" awaiting their trial, one and all declared that they had never heard of these regulations; and a flag officer, in a letter to the *Times* of November 27, 1866, says: "I have good reason for believing that the alteration which was made by an Order in Council in the Sea Rule of the Road in 1863, is not so generally understood by the young officers of the Royal Navy and the Merchant Service as it should be. It is urgently necessary that the officers of the watches who, in the smaller men-of-war may be midshipmen, and sometimes warrant officers, and in gunboats even quartermasters, should know the existing Rules of the Road by heart, so as to be able to apply them on the shortest notice. I beg to suggest to the officers who have, or are likely to have, the charge of the watches at sea in any of Her Majesty's ships, that, if they cannot obtain a copy of the Addenda to the Admiralty Instructions, (which Addenda are out of print,) and if they cannot obtain a copy of the Regulations for preventing Collisions at Sea, (which have been issued by the Board of Trade, and are supplied to men-of-war on demand—*see* notes, p. 43, of the Addenda to the Admiralty Instructions,) they would do well to cut this letter out of a copy of the *Times*, and keep that portion of it which contains the extract from the existing regulations in their pocket books for frequent reference; otherwise, the same fate may await the vessels under their charge which overtook Her Majesty's ship 'Amazon' and steamer 'Osprey,' in the early part of this year. I venture to suggest, also, to the consideration of the Board of

Admiralty and the Board of Trade, that if the more important clauses of the Regulations for preventing Collisions at Sea were printed in large type, on thick paper, and supplied to all men-of-war and merchant vessels, with directions that they be hung up in a conspicuous position, collisions would become much less frequent."

In the court martial in the case of the "Amazon" and the "Osprey," it appeared that on a fine night in the open sea the "Amazon" saw the "Osprey" *five miles off*, and as the "Amazon's" sails were lifting, the "Amazon" starboarded her helm and went to the southward, the look-out man shortly afterwards reporting a light two points on the starboard bow. For so doing, the court, consisting of an admiral and eight captains, came to the following decision:

"That the collision was occasioned by a grave error in judgment on the part of Sub-lieutenant * * * * * *, the officer of the watch, in putting the helm of the 'Amazon' to starboard instead of to port when first sighting the light of the 'Osprey,' in contravention of the Regulations for Preventing Collisions at Sea." Sub-lieutenant * * * * * * was cashiered, but recommended to mercy. The finding and sentence were ordered to be read on board all Her Majesty's ships in commission. Sub-lieutenant * * * * * * was subsequently restored to the service.

In a case reported, the court said: "It will be for you and not me to say whether there was really any risk of collision if both these vessels had kept their courses, because it is risk of collision alone which renders it peremptory for the tug to give way;" and in another case the court said, "that you are much better judges of what is meeting end on or nearly end on than I am; there must be risk of collision at the same time."

"Against the decision of a naval court martial there is no appeal; but 'my lords' could hardly believe that there was 'risk of collision' in the open sea when the two vessels *were five miles apart;* and they knew that there was another rule, namely, Article 14, which says: 'That if two ships under steam are crossing, so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other;' and that their own decision upon this very point was on record, as follows:

"In 1854 Messrs. McTear and Co., of Belfast, wrote to the Admiralty: 'Supposing two steamers from nearly opposite points of the compass to be meeting each other where A sees B's masthead and green lights only, but B sees A's three lights, should each vessel starboard her helm, or B continuing her course, should A starboard and pass astern of B?'

"The following is the reply of the Admiralty:

'ADMIRALTY, *Dec.* 11, 1854.

'GENTLEMEN: Referring to your letter of the 17th ult., upon the subject of the interpretation of the Circular No. 107, relative to lights to prevent collision, I am commanded by my Lords Commissioners of the Admiralty to acquaint you that the opinion which you allege obtains among masters of steam vessels that when two steamers meet one another the helm of *both* is to be ported, without reference to which lights are visible from either vessel, is erroneous and founded upon a misconception; indeed, their lordships are of opinion that such a course would not only be a violation of the established regulations, but might lead to very disastrous consequences. In conclusion, I am commanded to acquaint you that the interpretation given in your letter of the several diagrams illustrative of the established regulations, which is opposed to the misconception, is perfectly correct.

'I am, gentlemen, your obedient servant,

'A. MILNE.

'Messrs. G. McTear & Co., *Steam Packet Office, Belfast.*' "

In the case of the "Metis" and the "Wentworth," four coroners' inquests were held, and with the same evidence; the following are the reported verdicts, viz:

1st jury. Blame to the "Metis."
2d jury. Blame to both.
3d jury. Blame to the "Wentworth."
4th jury. Blame to neither.

These differences of judgment in one case were attributed by the opponents of the existing laws and rules of the road to the different constructions they are susceptible of, but with how much justice may be fairly left to the decision of intelligent seamen.

It has been contended that as it has been the rule from time immemorial for sailing vessels, when *on the port tack*, to give way, a steam vessel (*the one which corresponds to the vessel on the port tack*) should by law be obliged to give way also.* That the steam vessel which discovers another *on her starboard side* (corresponding *to the port tack* of a sailing vessel) should immediately *stand by* and *be prepared* to starboard the helm and stop, and reverse (if necessary) until the other has *crossed* or *passed*, or *until she is sure which way the other is going*.

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*The 1st Rule of the old "Trinity Corporation Rules" reads:

"Rule 1st. That those ships having the wind fair shall '*give way*' to those on a wind." In defining the meaning of the expression "*give way*" in this first rule, it was held in the Admiralty Court by the Trinity Master, in the case of the ship "Rose," that the ship sailing free is to keep out of the way by avoiding the bows and going astern of the close-hauled vessel. If the free vessel takes any other course, she does it at her own risk, as the free vessel cannot, of course, have the choice of two sides while the close-hauled is limited to one side; and the Admiralty decisions are quite conclusive. The "Harriet" was free on the larboard tack, and it was said to be her duty to port her helm and go before the wind.

The "Athol" was free on the starboard tack, and was adjudged in the wrong because she did not port her helm and luff. In the case of the "Ann and Mary," it was held to be the duty of a vessel with a free wind on the starboard tack to port her helm and pass to windward of the vessel close-hauled. "This doctrine is in harmony with the belief among seamen that in all cases of doubt the helm is to be ported."

It is also contended that in rivers, steamers should keep to that shore which is *on their starboard side*, thus presenting *their port sides* (corresponding *to the starboard tack*) to everything they meet, and a steamer wanting to cross their bows would have to give way, and stop and reverse, if necessary. If they hug the shore on *their port side*, then, as *their starboard side* (corresponding to *the port tack*) will be presented to everything they meet, they must give way, and stop and reverse, if necessary. Should a steamer, in consequence of a crowded state of a river, be *driven* over to the port shore, she must then exercise due caution, and *it is her interest* to get back to her own side as quickly as possible. It should be imperative that every steam vessel shall carry a compass on the bridge, in order that the officer of the deck (or commander, if present) may see in what direction she is going, and prevent collisions which have been reported to have taken place by each vessel steering by the lights of the other.—(See case of the "Osprey" and the "Nada."

It is claimed by those advocating it that the enactment of a law requiring *a steamer having another on her starboard side, to starboard, and stop and reverse, if necessary*, would not interfere with or direct the navigation of ships, but simply declare what every vessel should at all times be prepared to do to avoid collision. A vessel may go to the right or to the left, so long as the officer in charge is *sure* that safety lies in that course, but if he *is not sure*, then, if a collision take place, he must answer to law. The question then would be, in case of collision, "Did you, having another on your starboard side, starboard and stop?"

The officer in charge knows what his own vessel is doing, but he may not be able to form any correct judgment as to the movements of another; hence, it is urged that "*a law for one vessel*" would be better than "*rules for two*."

The following extracts from the London Army and Navy Gazette refer to the labors of William Sterling Lacon, Esq. The commanding officer or officer of the deck knows what he is doing with his own vessel at the moment of a threatened collision, but the difficulty may be in his forming a correct judgment in regard to the movements of the other under existing laws and rules; hence, it has been urged that "*a law for one vessel*" would be safer than "*rules for two*." In this connection, the following extracts from the London Army and Navy Gazette of December 5 and 12, 1868, exhibit the views of William Sterling Lacon, Esq., of London, who has taken a prominent part in the discussions of the "Rule of the Road" and the "Steering and Sailing Rules," under existing law:

(Extract—December 5, 1868.)

"The Rule of the Road at Sea." These are words which, for the last two years, have been gradually forcing themselves upon public attention; but is it possible that, in the middle of the nineteenth century, there is anything to be learned—anything to be done—on such a subject? We have carefully perused a pamphlet, by Mr. Lacon, and we candidly confess that such is the case. Mr. Lacon has most perseveringly attempted to direct the attention of the authorities to the subject, and has no less than six times brought it before Parliament—but equally as perseveringly have the authorities withheld the information—which has more than once been promised to the House of Commons; and while the public are awaiting the information which has been thus promised to them, an Order in Council has been issued altering and explaining the law, (the Steering and Sailing Rules;) but, as an Order in Council has no effect as regards foreigners, an international law has been altered as regards England, while it remains unchanged as regards foreign countries. Mr. Lacon was content to make his representations to our own Parliament, and to our own authorities, but now that this Order in Council has been issued, he has brought the following to the notice of thirteen of the principal foreign governments, namely: France, the United States, Sweden, Norway, Denmark, Prussia, Holland, Belgium, Spain, Portugal, Italy, Austria, Turkey, and the Brazils. "For centuries *the practice of seamen* obtained not only in England but in foreign countries, and this *practice* was upheld by *the law.* When steam came into vogue it became necessary to make a law for steamers, and instead of making it in unison with *the custom of the sea*, the custom was upset even as regards sailing vessels, and for years past the practice of seamen and the law have been at variance. By the Order in Council of August the 4th, 1868, the law in England has been altered, but an Order in Council has no effect as regards foreigners, and now the law in England and in foreign countries *is different.*" Mr. Lacon proposes to come back to the custom of the sea and the practice of seamen, and to establish the following as the only law for sailing vessels: "A sailing ship on the port tack shall keep out of the way of a sailing ship on the starboard tack; and a sailing ship which is to windward shall keep out of the way of a sailing ship which is to leeward." He further proposes that a steamship, which has the power, shall keep out of the way of a sailing ship. And, as regards steamships, instead of the existing *rules* for *two*, he proposes the following *law* for *one*: A steamship having another end on shall port; on her port side, shall port; on her starboard side, shall starboard, and *stop* and reverse, (if necessary.) "The object of the law," he says, "is not to interfere with, or to direct the navigation of ships, but to declare what every ship shall at all times be prepared to do to avoid collision, so that men shall not recklessly destroy each other. Men need not attend to any law unless it concerns them; and it does not concern them if the ships be five miles apart, as in the case of the Amazon and the Osprey; it does not concern them if they are *sure* that in where they are going they can do so with safety; they may go to the right, or they may go to the left, and no law will interfere with them. *But if they are not sure*, then, if a collision ensues, 'they must answer to the law;' and, in the event of such another case occurring as that of the Metis and the Wentworth, the coroner and the jury will put it to them—'Did you, having another on your starboard side, starboard and *stop?*'" It will be thus seen that Mr. Lacon proposes to extend the custom of the sea, and the practice of seamen to steamships as well as to sailing ships by making it obligatory on the steamship—which corresponds to the sailing vessel on the port tack, (at night showing a green light to the other)—to STOP, if necessary. If such a law had been in force, Mr. Lacon says, Her Majesty's ship Amazon, showing a green light, instead of porting her helm, would have starboarded and stopped until the Osprey, showing a red light, had passed. The Bhima, (in the Red Sea,) showing a green light, having the Nada, showing a red light, on her starboard side, would have done the same until the Nada had passed; and when Her Majesty's ship Euphrates, homeward bound in the Red Sea, met the mail steamer Surat, (outward bound,) she should have *been by law obliged to stop*, and not to have obliged the Surat to do so. "The Surat, acting under Article 13 of the Steering and Sailing Rules, having the other 'end on, or nearly end on,' and having previously seen the three lights of the Euphrates, ported her helm, thereby showing a red light; but afterwards seeing a green and masthead light only, slowed and stopped, and the Euphrates, acting under Article 14, having the other on her starboard side, and showing only a green and masthead light to the other, crossed the bows of the Surat at full speed." "I contend," says the report of the captain of the Surat, very properly sent home to his owners, "that the mail steamer Surat was placed in great danger, and only escaped collision by the engines of the Surat having been stopped." "It teaches us that we should not wait until another catastrophe such as that of the Nada, acting under one rule and the Bhima under another, when seventy-nine persons lost their lives on a fine night in smooth water; or that of her Majesty's ship Amazon, acting under Rule 14, and the Osprey acting under Rule

13, when both ships were sunk on a fine night in smooth water, within sight of our coast, forces upon the country a rigorous examination of the question." Mr. Lacon has written like a man of strong common sense, and it is to be hoped that his suggestions may be taken into consideration. At all events he has endeavored to arrest the attention of seamen to an observance of an invaluable part of their duty, viz., a sharp look-out. We hope it will be shown that H.M.S. Crocodile was not deficient in that respect when the guard-ship was run down the other night.

(Extract—December 12, 1868.)

With reference to our article of last week on "The Rule of the Road at Sea," Mr. Lacon has requested us to re-write the following paragraphs in order that the subject should be thoroughly understood by the nautical world: "If such a law had been in force," Mr. Lacon says, "Her Majesty's ship Amazon, showing a green light, instead of porting her helm, would have starboarded and stopped until the Osprey, showing a red light, had passed. The Bhima, (in the Red Sea,) showing a green light, having the Nada, showing a red light, on her starboard side, would have done the same until the Nada had passed; and, when Her Majesty's ship Euphrates, (homeward bound,) in the Red Sea, met the mail steamer Surat (outward bound) she should have been by law obliged to stop, and not have obliged the Surat to do so. The Surat, acting under Article 13 of the Steering and Sailing Rules, having the other 'end on, or nearly end on,' and having previously seen the three lights of the Euphrates, ported her helm, thereby showing a red light, but afterwards, seeing a green and masthead light only, slowed and stopped, and the Euphrates, acting under Article 14, having the other on her starboard side, and showing only a green and masthead light to the other, crossed the bows of the Surat at full speed." "Having," says Mr. Lacon, "brought this subject before the public, I wish it to be understood that I am strongly in favor of the system of lights which has now become of universal adoption, but to trust to them as little as possible, and that while a man is speculating upon what he sees, he should go away from it, and not approach it and cross its path, as he is by law now bound to do. The law cannot contemplate the want of a proper look-out, from whatever cause arising, but the law must contemplate what has been put before the authorities in May, 1867, namely: A work on color blindness, by George Wilson, M.D., published in 1835, and who had experimented upon large masses of the population. In that work it is stated that, of the male population of this country, one in 17.7 is color blind, and one in 55 cannot distinguish red from green; add to this, it is said that pale green shows red in a fog."*

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* May there not be a question in regard to the correctness of the expression "color blindness," when referred to practically in its connection with the three very marked lights (white,

THE RULE OF THE ROAD AT SEA; OR, THE STEERING AND SAILING RULES.

(Proposed in 1868, after publication of the Order in Council of July, 1868.)

Regulations for Preventing Collisions at Sea, &c.	*Proposed Regulations for Preventing Collisions at Sea, &c.* (Suggested Alterations are in *Italics.*)

PRELIMINARY.

Art. 1. In the following rules every steamship which is under sail and not under steam is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.	Art. 1. In the following rules every steamship which is under sail and not under steam is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

RULES CONCERNING LIGHTS.

Art. 2. The lights mentioned in the following Articles numbered 3, 4, 5, 6, 7, 8, and 9, and no others, shall be carried in all weathers from sunset to sunrise.	Art. 2. The lights mentioned in the following Articles, and no others, shall be carried in all weathers from sunset to sunrise.

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red, and green) as seen ordinarily? Officers and look-out men should be taught the difference in the appearance of the three lights by frequent exhibitions of them, and their differences as seen by observers at different distances, pointed out to them by experts. Raw hands, and careless or unobservant officers, are not likely to decide promptly as to the color of light, liable as it is to vary in shades of color by the state of the atmosphere; a little instruction, however, it is believed, could in a great degree remove that difficulty, or at least show who should not be placed in positions requiring prompt and correct judgment in regard to distinguishing colors. It has been ascertained by actual test that *a deep red glass chimney* placed around the flame of a lamp, absorbed 80 per cent. of the entire light, (diminishing the distance of its visibility in that proportion to a white light of otherwise equal power and intensity,) while a French *pink colored chimney*, under the same circumstances, absorbed 57 per cent. of the entire light.

It is a well established fact that fog imparts a redness of color or tinge to all lights. White less reddish in proportion to its natural clearness and brilliancy, and other colors in the same way; but, if the lights are properly attended to and burn as they should do, it will not be difficult to distinguish white from red or green, or green from red. Bad oil, bad ventilation, bad lamps, and bad attendance will give all lights what sailors call a dirty look, and even in the clearest weather they will have a reddish tinge.

T. A. J.

LIGHTS FOR STEAMSHIPS.

Art. 3. Seagoing steamships when under weigh shall carry—

(*a*) At the foremost head, a bright white light, so fixed as to show an uniform and unbroken light over an arc of the horizon of 20 points of the compass; so fixed as to throw the light 10 points on each side of the ship, viz: from right ahead to 2 points abaft the beam on either side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of least five miles.

(*b*) On the starboard side, a green light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*c*) On the port side, a red light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to 2 points abaft the beam on the port side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*d*) The said green and red side lights shall be fitted with inboard screens, projecting at least three

Art. 3. Seagoing steamships when under weigh shall carry—

(*a*) At the foremast head, *or below the foreyard, (where it can be best seen,)* a bright white light, so fixed as to show an uniform and unbroken light over an arc of the horizon of ——— points of the compass, so fixed as to throw the light ——— points on each side of the ship, viz: from right ahead to ——— on either side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least ——— miles.

(*b*) On the starboard side, a green light, so constructed as to show an uniform and unbroken light over an arc of the horizon of ——— points of the compass, so fixed as to throw the light from right ahead to ——— on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least ——— miles.

(*c*) On the port side, a red light, so constructed as to show an uniform and unbroken light over an arc of the horizon of ——— points of the compass, so fixed as to throw the light from right ahead to ——— on the port side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least ——— miles.

(*d*) The said green and red side lights *shall be carried.*

——— and shall be fitted with

feet forward from the light, so as to prevent these lights from being seen across the bow.

inboard screens, projecting at least three feet forward from the light so as to prevent these lights being seen from across the bow.

LIGHTS FOR STEAM TUGS.

Art. 4. Steamships, when towing other ships, shall carry two bright white masthead lights vertically, in addition to their side lights, so as to distinguish them from other steamships. Each of these masthead lights shall be of the same construction and character as the masthead lights which other steamships are required to carry.

Art. 4. Steamships, when towing other ships, shall carry two bright white masthead lights vertically, in addition to their side lights, so as to distinguish them from other steamships. Each of these masthead lights shall be of the same construction and character as the masthead lights which other steamships are required to carry.

LIGHTS FOR SAILING SHIPS.

Art. 5. Sailing ships under weigh or being towed shall carry the same lights as steamships under weigh, with the exception of the white masthead lights, which they shall never carry.

Art. 5. *Sailing ships under weigh or being towed shall carry side lights only, namely: A green light on the starboard side and a red light on the port side, (of the same character, and in the same relative position, and screened similar to those of steamers as in Art.* 3.)

If a sailing ship is not astern of the towing steamer, but is lashed alongside of her, or has one in either side of her, then she shall carry a bright white light at the foremast head or below the foreyard (where it can be best seen) in addition to the two side lights, and the steamers shall carry none.

LIGHTS ASTERN.

Art. 6. *Any vessel seeing the lights of another coming up astern of her shall exhibit or wave a light at the stern until such vessel has passed.*

EXCEPTIONAL LIGHTS FOR SMALL SAILING VESSELS.

Art. 6. Whenever, as in the case of small vessels during bad weather, the green and red lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for instant exhibition; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side nor the red light on the starboard side.

To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the color of the light they respectively contain, and shall be provided with suitable screens.

Art. 7. Whenever, as in the case of small vessels during bad weather, the green and red lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for instant exhibition; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such a manner as to make them most visible, and so that the green light shall not be seen on the port side nor the red light on the starboard side.

To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the color of the light they respectively contain, and shall be provided with suitable screens.

LIGHTS FOR SHIPS AT ANCHOR.

Art. 7. Ships, whether steamships or sailing ships, when at anchor in roadsteads or fairways shall exhibit, where it can best be seen, but at a height not exceeding twenty feet above the hull, a white light in a globular lantern of eight inches in diameter, and so constructed as to show a clear, uniform, and unbroken light visible all round the horizon, and at a distance of at least one mile.

Art. 8. *Ships, whether steamships or sailing ships, when at anchor in roadsteads or fairways shall exhibit, where it can be best seen, but at a height not exceeding twenty feet above the hull, a bright white light* ONLY, *in a globular lantern of eight inches in diameter, and so constructed as to show a clear, uniform, and unbroken light visible all round the horizon, and at a distance of at least —— miles.*

LIGHTS FOR PILOT VESSELS.

Art. 8. Sailing pilot vessels shall

Art. 9. Sailing pilot vessels shall

not carry the lights required for other sailing vessels, but shall carry a bright white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light every 15 minutes.

not carry the lights required for other sailing vessels, but shall carry a bright white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light every 15 minutes.

LIGHTS FOR FISHING VESSELS AND BOATS.

Art. 9. Open fishing boats and other open boats shall not be required to carry the side lights required for other vessels; but shall, if they do not carry such lights, carry a lantern having a green slide on the one side and a red slide on the other side; and on the approach of or to other vessels such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side.

Fishing vessels and open boats when at anchor, or attached to their nets and stationary, shall exhibit a bright white light.

Fishing vessels and open boats shall, however, not be prevented from using a flare-up in addition if considered expedient.

Art. 10. Open fishing boats and other open boats shall not be required to carry the side lights required for other vesssels; but shall, if they do not carry such lights, carry a lantern having a green slide on the one side and a red slide on the other side; and on the approach of or to other vessels such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side.

Fishing vessels and open boats when at anchor, or attached to their nets and stationary, shall exhibit a bright white light.

Fishing vessels and open boats shall, however, not be prevented from using a flare-up in addition if considered expedient.

RULES CONCERNING FOG SIGNALS.

Art. 10. Whenever there is a fog, whether by day or night, the fog signals described below shall be carried and used, and shall be sounded at least every five minutes, viz:

(*a*) Steamships under weigh shall use a steam whistle placed before the funnel, not less than eight feet from the deck.

Art. 11. Whenever there is a fog, whether by day or night, the fog signals described below shall be carried and used, and shall be sounded at least every five minutes, viz:

(*a*) Steamships under weigh shall use a steam whistle placed before the funnel, not less than eight feet from the deck.

(*b*) Sailing ships under weigh shall use a fog horn.

(*c*) Steamships and sailing ships when not under weigh shall use a bell.

(*b*) Sailing ships under weigh shall use a fog horn.

(*c*) Steamships and sailing ships when not under weigh shall use a bell.

NOTE.—*The range and intensity of the lights, and a "fixed relative position" for the side lights, to be hereafter determined by practical men.*

STEERING AND SAILING RULES.

SAILING SHIPS.

Art. 11. If two sailing ships are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

Art. 12. When two sailing ships are crossing so as to involve risk of collision, then, if they have wind on different sides, the ship with the wind on the port side shall keep out of the way of the ship with the wind on the starboard side, except in the case in which the ship with the wind on the port side is close hauled and the other ship free, in which case the latter ship shall keep out of the way; but if they have the wind on the same side, or if one of them has the wind aft, the ship which is to windward shall keep out of the way of the ship which is to leeward.

Art. 12. *A sailing ship on the port tack shall keep out of the way of a sailing ship on the starboard tack, and a sailing ship which is to windward shall keep out of the way of a sailing ship which is to leeward.*

STEAMSHIPS.

Art. 13. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

Art. 13. *A steamer having another*

End on, shall port.

On her port side, shall port.

Art. 14. If two ships under steam are crossing so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.	*On her starboard side, shall starboard and stop, and reverse, (if necessary.)*

SAILING SHIP AND STEAMSHIP.

Art. 15. If two ships, one of which is a sailing ship and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing ship.	Art. 14. *A steamship shall keep out of the way of a sailing ship.*

SHIPS UNDER STEAM TO SLACKEN SPEED.

Art. 16. Every steamship, when approaching another ship so as to involve risk of collision, shall slacken her speed, or, if necessary, stop and reverse; and every steamship shall, when in a fog, go at a moderate speed.	Art. 15. *Every steamship shall, when in a fog, go at a moderate speed.*

VESSELS OVERTAKING OTHER VESSELS.

Art. 17. Every vessel overtaking any other vessel shall keep out of the way of the said last-mentioned vessel.	Art. 16. Every vessel overtaking any other vessel shall keep out of the way of the said last-mentioned vessel.

Construction of Articles 12, 14, 15, *and* 17.—Art. 18. Where, by the above rules, one of two ships is to keep out of the way, the other shall keep her course, subject to the qualifications contained in the following Art.

Proviso to Save Special Cases.—Art. 19. In obeying and construing these rules, due regard must be had to all dangers of navigation; and due regard must also be had to any special circumstances which may exist in any particular case rendering a departure from the above rules necessary in order to avoid immediate danger.

No ship under any circumstances to neglect proper precautions.—Art. 20. Nothing in these rules shall exonerate any ship, or the owner, or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper look-out, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

Art. 17. *Every steamship shall carry a compass on the bridge.*

ROYAL UNITED SERVICE INSTITUTION.

Evening Meeting.—Monday, April 16, 1866.

Rear Admiral R. COLLINSON, C. B., in the chair.

COLLISIONS AT SEA, AND THEIR REMEDY BY MEANS OF AN IMPROVED SYSTEM OF LIGHTS.

By Commander J. A. Heathcote, late H. M. Indian Navy.

The subject which, by the kind permission of the Council of this Institution, I am allowed to present to your notice this evening, is that of Collisions at Sea, and an improved arrangement of lights with a view to their prevention. It is scarcely necessary to remark that the disastrous collisions which are constantly occurring are not only eminently injurious to commercial and shipping interests, but are also the cause, oftentimes, of dreadful destruction of human life, with its attendant miseries, and in this view of the subject, as well as that of the destruction of property, I feel sure that any attempt to prevent or lessen such disasters would meet with a kind and considerate reception from an institution such as this, composed of distinguished officers and gentlemen, and under the direct approval and support of the government itself. This subject should, no doubt, properly be divided into three heads, viz: collisions between steam vessels, between steam vessels with sailing vessels, and between sailing vessels. I propose to-night to treat only of steam vessels.

Of the collisions which actually take place, but very few are ever brought to the notice of the public. Where life is lost, the case will most likely be mentioned in the papers, or where a ship is run down and sunk on the spot, it will not pass without mention; but still no great prominence is given even to cases like these, while those of minor importance are left wholly unrecorded. Even the law courts hear only of those cases when there is a disputed responsibility, but many a long bill for damages by collision is paid without their intervention; and it is only those who have to pay the bills that are most sure to hear of every case that occurs. It is only the underwriters of this country, at Lloyd's, and the various large insurance companies at the principal seats of commerce, who can tell how frequent is the occurrence of this particular casualty of the sea, and how disastrous is its effect upon the commercial interests of the kingdom.

But how do collisions occur? What is their principal cause? For some few years of late I have been employed, together with several officers of the royal navy and of my own service, by an association at Lloyd's, whose particular province it is to take cognizance of collisions, and, in fact, of every other disaster of the sea; and while so employed I have certainly heard more of collisions than could possibly be gathered in a much longer period of ordinary nautical experience. My attention has thus been directed to the subject, and particularly with a view to discover the origin, the prime cause of these frequent accidents. I will attempt, therefore, to answer the question. Collisions are not very varied in their attendant circumstances, their main features are all very similar. I do not mean to say that there are not differences which, to the minds of the astute lawyers who have the handling of these cases when they get into the Courts of Admiralty, are constantly discovered in the interests of justice, differences of essential importance in adjusting responsibility, but on points which inferior minds might, until enlightened, think altogether of minor consideration. Such differences as these there are, no doubt, but still it will not be denied that collisions invariably involve a mistake, a misapprehension on one side or the other, this is followed by alarm and confusion, during which the contact occurs, with more or less damage. This, at least, is what is to be inferred from any evidence that may be taken, or any explanation that may be given of the occurrence; for the evidence is always conflicting, the explanations are seldom satisfactory. But of what nature is the mistake, the misapprehension, which is the foundation of the whole matter? Are there not rules of the road at sea as well as on land, with the advantage of those, for the sea being all alike for nearly every civilized nation of the globe, so that a vessel meeting another on the seas at night may feel sure that there is a compact between them as to what each shall do in order to pass on in safety? Such is, indeed, the case, and yet A meets B at night, and the first thought which occurs to him is, "Which way is B going?" and B sees A, and wants to know which way A is going. It is just this which both most desire to know, for upon it must depend their tactics; upon it must depend the best measures to be adopted to avoid collision; it is just this which neither can tell; it is just on this point, in this particular, that the mistake, the misapprehension, the error in judgment occurs, which is the source and mainspring of the accident. Neither vessel can know the course the other is steering. They *can* see and judge of this in the day time, but not at night, notwithstanding the lights which all vessels, of whatever nation, are now obliged by law to carry; and this, no doubt, is the principal cause why collisions are most frequent at night. Could it be known at night, as it is in the day time, what course a vessel in sight is steering, it is plain that the probability of collision at night would be reduced to nearly the same level as in the day time; and could a vessel at night observe the change of course made by another in her proximity, as she can in the day time, the advantage of daylight for the avoidance of collision would depend principally, if not entirely, upon the distance at which the course, or change of course, of an approaching vessel could be observed.

Before illustrating this by a case, it will be necessary briefly to state the present system of lights. The regulations as to steamships are these:

"Art. 3. Sea-going steam ships when under way shall carry—

"(*a.*) *At the Foremast Head*, a bright White Light, so fixed as to show an uniform and unbroken light over an arc of the horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the ship, viz: from right ahead to two points abaft the beam on either side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles.

"(*b.*) *On the Starboard Side*, a Green Light so constructed as to throw an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

"(*c.*) *On the Port Side*, a Red Light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to two points abaft the beam on the port side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

"(*d.*) The said Green and Red Side Lights shall be fitted with inboard screens, projecting at least three feet forward from the light, so as to prevent these lights from being seen across the bow."

These are the rules at present in force. You will observe that there is no regulation regarding the height at which the white light is to be carried, nor is there any rule as to any relative position of one light to another, or between all the lights. If the white light is at the foremast head, the red light anywhere on the port side, and the green light anywhere on the starboard side, the terms of the act of Parliament are complied with. In practice, the *spirit* of the law is acted up to, rather than the letter; and it is found more convenient and less expensive to hang the lantern which should represent the white masthead light at an easy distance down the forestay; so this is the arrangement in most merchant vessels, and it appears to be nearly as efficient as the more strict conformity to the letter of the act, which is less frequently adopted. As regards the side lights, they are placed in different vessels, as was remarked to me by a friend, in every conceivable position between the hawse-pipes and the taffrail; and yet these at any rate are, notwithstanding their irregularity, in strict conformity with the regulations; they are on the side of the vessel, and that is all that is required of them.

Such being the rule, and such the corresponding practice—for here rule and practice are not at variance—let us examine the effect. A (Diag. 1) at night sees on her port bow the white masthead light, and the green light of another steamer B. This stranger may be approaching on a course nearly opposite to that of A. Her red light, though not observable, may be only just shut out, and half a point from the direct line of approach is sufficient for this. But it is equally probable that B may be crossing the path of A at right angles, or she may be steering a course only four points different from that of A herself. That is, if A is steering N.N.E. and sees B's lights bearing north, B may be rapidly nearing A on a S. by E. or S. half E. course, or, she may be steering any other course between that and E.N.E.

And it is impossible for A in any way to divine, under the present regulations as to lights, in which of these different directions B may be proceeding.

And B is equally in a dilemma as to what course A may be steering.

Now take a case which has actually occurred, and I will select one where the vessel was run down and sunk in a few minutes—a case of which the facts have been thoroughly well sifted; for they have engaged the attention of some of the first lawyers of the day, which, nevertheless, exhibits the usual characteristics of a conflict of evidence, and explanations unsatisfactory on some most important points. Off Cape St. Vincent, on a November night, a few years ago, the "Araxes," going from England to Gibraltar, met the "Black Prince," going from Gibraltar to England. The "Black Prince" appears to have been rather to the westward of the other, or farther from the land, and, believing she could do best by keeping outside the strange vessel, she altered her course still further to the westward. The "Araxes," on the contrary, first sighted the "Black Prince" nearly ahead, and therefore ported her helm, as directed by the statute; that is, she also went to the westward, and in doing so ran into the "Black Prince," cut her down and sunk her, and property to the amount of £25,000 was lost. Another very similar case has more recently occurred in the channel, where the "Murillo" was run down by the French steamer "Dix Décembre," when three lives were lost and property to the amount of £60,000. The circumstances of this case are nearly similar to the last. Of course, neither vessel tried to run the other down, they both endeavored to their utmost to *avoid* collision, and to this end they adopted the measures which each thought best, both being ignorant of the course the other was steering. But there was an error in judgment, a misapprehension on one side or the other, or on both sides, and the result was a fearful destruction of life and property. Both vessels would have gone clear of each other in the daytime, and why? because they could see the way the other was steering; and it is impossible to suppose that these accidents could have occurred had each vessel, although at night, been able to know the course of the other, and to observe and note any change of course made by the other.

And to show the absolute necessity of knowing the course which an approaching vessel is pursuing in order to avoid collision, it will be only necessary to quote one more example. A sees nearly ahead the green light of another steamer, B, which she supposes to be coming nearly end-on to her, she therefore, in accordance with the statute, ports her helm, and expects that B will do the same, which no doubt she would do if she *were* coming nearly end-on, and thought that A was doing the same; but B, instead of coming nearly end-on to A, is really steering a course nearly at right-angles to that of A, and this being the case, it is plainly not the best thing that A can do to port her helm, and yet A, in porting her helm, is acting up to the regulations and to the best of her judgment, but by doing so, is *seeking* a collision while trying to avoid it. She has committed herself to a manœuvre which she would not have contemplated for an instant had she been able to ascertain and know B's course—the direction in which B might be steering.

The manner in which I propose that vessels may be enabled to know, at night, the course another is steering, with nearly the same accuracy as in the day time, and may also be able to observe any change of course in another, is, as I mentioned at the outset, by an improved system of lights, or rather by an improved arrangement of the lights already in use.

I am well aware that any system of lights, whether this or any other, to be of any good effect, must be of general adoption; and to obtain anything like a general adoption, or to hope to obtain it, the system proposed must not only supply a recognized want, but must do so efficaciously, simply, and inexpensively.

I think the necessity of the knowledge which this system proposes to supply cannot be denied; whether the want is met as it should be, and whether the proposed system possesses to a sufficient degree the indispensable qualifications of simplicity, efficiency, and inexpensiveness, it will be for the meeting to judge. The proposed arrangement, at any rate, is a very simple one, were it not so I could not consider it of any value whatever; it will, therefore, take but a very short time to describe. It consists in regulating the present lights in fixed positions with regard to each other, and in so placing them that the side lights when seen directly beneath the masthead light shall give a line of sight of 45° or four points on either bow of the vessel observed; and, further, that the height of the bright light above the level of the side lights be always in a fixed proportion to the distance between the two side lights. The rule then for placing the side lights would be this: The line between the side lights being at right angles to the keel, that this line be at a distance before, or in front of, the masthead or bright light equal to half the distance between the side lights. Let A (Diagram 2) be taken to represent the fore part of the deck of a steam vessel, *b* being the place of the foremast, *c* and *d* represent the proper positions of the green and side lights respectively. By this arrangement there will be obtained three distinct and important lines. The one right ahead when all three lights are visible, and one on either bow at an angle of 45° or four points when neither side light is seen directly under the white light. And for the purpose of estimating the remaining points of the compass at which the lights may be seen, a fixed proportion of the height of the masthead light to the distance between the side lights is necessary; and the most simple proportion for this purpose, the proportion which would give the estimate desired most readily, and be the most valuable for the object in view, would be that the height of the bright light above the level of the side lights should be equal to half the distance between the side lights. This proportion might possibly, in small vessels, place the white light too low; but that the proportion be the same in large and small vessels is essential.

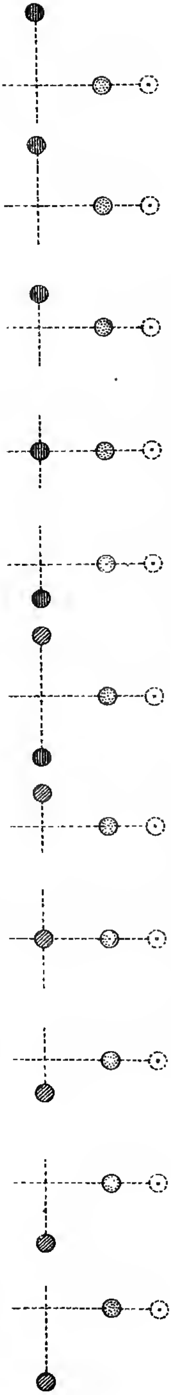
Perhaps another convenient proportion would be, that the three lights, when seen directly ahead, shall form the points of an equilateral triangle. The effect of the lights with either of these proportions for the height of the masthead light is shown in the accompanying diagram No. 3; the first proportion (or that of height above level of side lights, which equals half the distance between the side lights, and which I believe to be best,) is shown with the outline of the light fully marked; in the other the outline is dotted. Let us now examine the working of this system.

A, (Diagram No. 4,) steering N.N.E., sees on her port bow a bright light directly above a green light bearing north; she at once knows that a steamer, B, is crossing her bows, steering S.E. She observes the green light gradually to draw out to the right of the bright light, and she then knows that B is altering her course to the eastward; or, if the green light opens out to the left of the bright light, she knows that B has ported her helm, and that there is danger of collision Or, B sees on her starboard bow, bearing south, a red light open to the right of the bright light, she then knows that a steamer, A, is approaching her on a course between N. ½ E. and N.E., and by the degree at which the lights are open, one from the other, she will be able to judge, within a point or a point and a half, the actual course which A is steering; and she will also be able to discern directly any alteration of course which A may think fit to make. If A starboards her helm, the red light will become more open of the bright light until the green light of the starboard side is seen; but if she ports her helm, the red light will close with the bright light until they are in one line. On the system, as at present carried out, neither B's nor A's course could be estimated within nearly ten points; whilst under the arrangement now proposed B's course is known exactly, and A's course, her position being nearly the most unfavorable possible, can be ascertained within a point, or a point and a half at most. Where the least degree of accuracy is attainable is where it is least

Diagram No. 3.

A Steamer's lights as they would be seen under the arrangement of the lights now in use by which the mast head light in its transit with the side lights will give a line of sight of four points or 45° on either bow.

NB. The second position of the bright light shown by the dotted outline is that which it would occupy if its height were regulated by the second proportion named, instead of the first.



Vessel steering 10 points to the left of the line of bearing; or if bearing North is steering W.N.W.

Vessel steering 8 points to the left of the line of bearing; or if bearing North is steering West

Vessel steering 6 points to the left of the line of bearing; or if bearing North is steering W.S.W.

Vessel steering 4 points to the left of the line of bearing; or if bearing North is steering S.W.

Vessel steering 2 points to the left of the line of bearing; or if bearing North is steering S.S.W.

Vessel steering directly on the line of bearing; or if bearing North is steering South.

Vessel steering 2 points to the right of the line of bearing; or if bearing North is steering S.S.E.

Vessel steering 4 points to the right of the line of bearing; or if bearing North is steering S.E.

Vessel steering 6 points to the right of the line of bearing; or if bearing North is steering E.S.E.

Vessel steering 8 points to the right of the line of bearing; or if bearing North is steering East

Vessel steering 10 points to the right of the line of bearing; or if bearing North is steering E.N.E.

Red is shown thus ... ●
Green .... " ..... " . . ▨
Bright .. " ..... " .... ◌

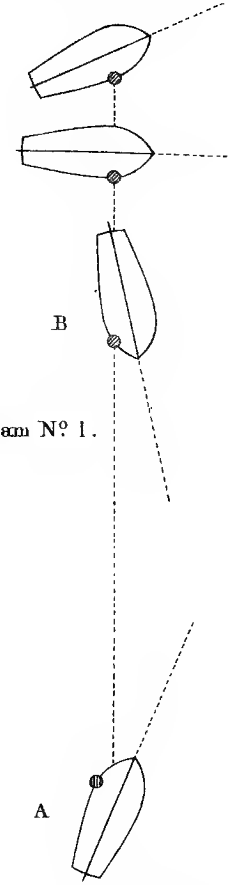


Diagram Nº 1.

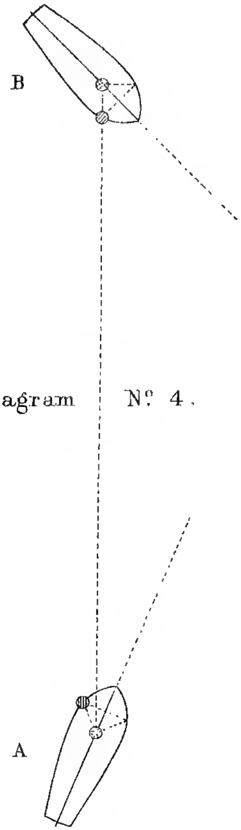


Diagram Nº 4.

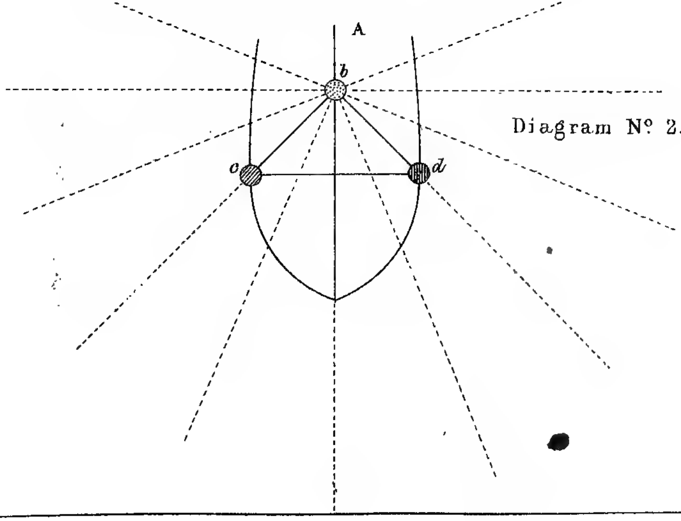


Diagram Nº 2.

required—that is, when the vessel seen is steering at an angle greater than 90° to the line of bearing.

This simple system would, I think, tell readily and unmistakeably the course steered by vessels sighting each other at night with nearly the same accuracy as can be known in the day time. Any system of lights to be really valuable must be so simple as to be read at a glance, and as plain as to admit of no misinterpretation, and I trust that the arrangement now proposed may be found to fulfil these requirements, and may thus be a means, if generally adopted, of greatly decreasing the danger of navigation, and particularly of preventing some of the numerous and disastrous collisions which are now becoming of such frequent occurrence.

The proposition which I wish to lay before you and invite you to discuss is then shortly this:

1st. That vessels approaching one another, in order to determine what measures are best adapted to avoid collision, must know approximately—that is within two or three points at most—the course the other is steering, and that the want of this knowledge is a fertile source of collision.

2d. That the present regulations with regard to the lights carried by steam vessels do not enable even an approximate knowledge to be gained, at night, of the course steered by the vessel whose lights are seen.

3d. That an improved arrangement and regulation of the lights already in use, such as that now suggested, would supply this want; and by enabling a correct judgment to be formed of the course steered by an approaching vessel as soon as her lights are seen, would be calculated to lessen the liability of collision.

I must apologize for the roughness of the diagrams and for the imperfections of my explanation.

I beg to tender you my best thanks for the kind attention which you have given to this subject, and I shall esteem it a favor if gentlemen present will kindly state their opinions on the proposition. I shall, of course, be most happy to answer any questions or give any further explanation that may be desired.

Captain HEATHORN: I should like to ask if the fact of a vessel being very much down at the stern would not alter the position of the triangle?

Commander HEATHCOTE: Mathematically, yes, but not practically.

Commander COLOMB, R. N.: I wish to make one or two remarks. I have listened with a great deal of interest to the paper just read, and I must say that I fully agree with every single word which has been uttered. I think it one of the most important subjects that we could discuss in this Institution. The commerce of England is increasing round our shores every year; the speed of our ships is increasing; the numbers which are collected round the centres of our commerce are becoming so enormous that really the chief danger a ship has to encounter in bringing her ware to the market where they are to be sold—that is England—is the danger of running foul of or of being run into by other ships, who are also bringing their wares to the same mart. I will endeavor to make my remarks as short as possible, though, unfortunately, I have a good deal to say, because on a former occasion I had the misfortune to stand in Mr. Latham's way (who is to read the second paper this evening.) When I heard his paper afterwards, it was such an uncommonly good one that I bitterly regretted the abridgment which I caused. I hope I shall not do it again. While agreeing with every word which has been said by the lecturer, as to the placing of permanent lights, and thinking really that there can be no question about it, that being a measure which should be carried out immediately, there is positively no objection to it—while agreeing with all that he has said in that way, I still think that our system of permanent lights does not meet all the requirements of the case—does not prevent all the danger of collision, which one would expect from them. I should class collisions at night under three heads, supposing, of course, that every ship carries her proper regulation lights. The first would be when either from a bad lookout or from the thick weather no lights whatever are seen, which I believe is the commonest case of all. The next class would be when the lights are seen, but through particular states of the atmosphere or other causes, such as color-blindness on the part of the lookout man, the red light and the green light are mistaken; or it may be that a white light is mistaken for a green light. The last class where collisions occur would be when the lights are fully made out, but when an approaching ship thinks it is better not to follow the rule of the road from other reasons. When a collision is nearly inevitable there is always a certain moment of doubt, and that moment of doubt is very often fatal. You have to exercise your judgment in an instant as to what you are to do. We had one case mentioned by the lecturer, the "Araxes" and the "Black Prince." It was a case in point. There was another case much nearer home, between the "Helen Sinclair" and the "Minna," where the "Helen Sinclair" was sunk; that was precisely a similar case off Erith, in the Thames. The "Wanato," the "Samphire," and the "Fanny Buck," were cases of the first description of collision that I have mentioned. It seems to me that one great desideratum would be, if it were possible, to increase the power of our lights, so as to force a lookout man, however much he might be inclined to doze over his work, and however bad his lookout might be, to understand that a certain colored light was showing in a particular direction. The next thing that is wanted would be something by which a ship, feeling that she was obliged to depart from the rule of the road, should be able to announce at once to another ship approaching her that she was so departing from it, or, it might be, that she was following the rule of the road. I have considered it quite impossible to increase the power of permanent lights, but a subject to which Captain Bolton and myself, about ten or eleven months ago, turned our attention, was the endeavor to provide something like temporary lights—to supplement the permanent lights, but not by any means to supersede them, because with the improvements which the lecturer has suggested they would be as perfect as permanent lights could be. But we want something stronger. I believe in the majority of collisions the ship which is about to receive the blow is perfectly aware of it for some minutes previously. That was so in the case of the "Samphire;" I believe it was so in the case of the "Wanato;" and certainly it was so in the case of the "Helen Sinclair" and the "Minna," in the Thames. Now, it has always struck me that it would be desirable to have some signal which you could make at once to an approaching ship, if you saw that she was likely to come into collision with you, you being on the right tack; or, if the case were such that you were not able to alter your helm, it would be desirable to be able to say to her at once, "Here I am, steering in such a direction." For this purpose one would provide these lights. Or, again, if you wanted a signal to say, "I am in doubt about the way you are steering; I am putting my helm a starboard; make the best of it, and alter your course." Now, we have here three pyrotechnic lights; they are colored red, white, and green. They are distinguished—the red having a single ring on it, the white having a double ring, and the green three rings. They are kept in an air-tight box on deck, of convenient shape, so that it can be placed where it is most convenient. It is supposed you see a ship coming down upon you—say on the port side; you are close-hauled, or lying to, or have stopped your engines, and you perceive something coming. She does not perceive your red light. You have this, which is an enormously powerful red light. There is a little plug on the top; by pulling out the plug you produce the light at once. It seems to me that the person in charge of the other vessel would, seeing a bright red light, port his helm at once. Again, if you are approaching another ship end-on, and you are going to follow the rule of the road, and are not quite sure what he is going to do, you burn a red light and "port your helm!" He sees your red light, and he ports his helm without any further consideration. It seems to me that in a great number of these cases had we had something of this sort collisions might have been avoided. These pyrotechnic lights are here for any gentleman to look at. We cannot fire them here, because it would be rather a choking proceeding; but after the lecture, if any one would like to see them burned, we can burn them outside.

H. C. Rothery, Esq., Registrar, Admiralty Court: With the permission of the chairman, I should like to make a few remarks upon the very able paper that Captain Heathcote has been reading to you. The only point about which I have any doubt, and it is one to which a great many of Captain Heathcote's observations applied, is as to the relative height of the white light and the two colored lights. He said, if I understood him correctly, that the lights should be so placed that they would form an equilateral triangle. Perhaps Captain Heathcote will be good enough to say whether the height of the white light above the deck will make any difference at all? Because, if I understand his system correctly, (and I think it impossible for anybody to have paid any attention to it and not to have seen the great value of the system,) the importance of it is this: if you see a red light and a white light of a vessel, you will know, of course, that you are on the port side of that vessel; if you see the red light and the white light in the same vertical line, you know that you are four points on the port bow of that vessel. If you see the green light and the white light in a vertical line, you know you are four points on her starboard bow. But whether the white light be one foot or two feet, or three feet, or twenty feet above the colored light, if you see them in the same vertical line, I do not very well understand what difference it would make. These are the only observations I would wish to make.

Captain Craufurd, R. N.: As a practical man I should like to say a few words—for we must look at these things practically as well as theoretically. As to the height of the light, whether it is ten feet or twenty feet, I will put it to any sailor present whether he will know the difference. So far as I am able to pronounce an opinion, the fact of having one colored lamp on one side of the ship, and another colored light on the other, and a different colored light at the masthead, which light distinguishes steamers from sailing vessels, puts you in the position of knowing exactly what ship is coming to you. This is a point clear and well defined. All these things look very pretty theoretically, but I am afraid that in actual practice these laws are not carried out as they ought to be carried out. Coming up the channel about ten days ago, on my return to England, steering a straight course in a steamer, going nine knots, we came across several ships, and not a light was shown on them. Now I will put it to you if a collision had taken place, would it have been surprising. The lights of the steamer I was in were shown—the masthead light, the red and the green. These other ships, I suppose, when they came near us, had a great hustle and bustle on board to show a light. Of all the means of preventing collisions, there is one thing that ought to be depended upon more than anything else, and that is the eye of the seaman. You may see green lights, you may see red lights, and you may see white lights, but if you do not keep a good lookout, what is there to prevent collisions. I do not wish to say anything against the theory of the lecturer, but I doubt whether any advantage is gained by the actual height of the light, or whether the white light is at a certain angle with the red light or the green light. The man must have, first of all, a good eye. Coming up channel, I have often wondered that more collisions have not taken place. I think that those who keep their eyes well open will have no trouble in keeping their ships clear of others.

Mr. Stirling Lacon: You say you did not see the lights in those ships; was it that they were not carrying lights at all?

Captain Craufurd: Carrying no lights at all, or at least showing none; this I am perfectly sure of. I happen to be a little curious about things; and I did not go to bed very early, but walked on the deck. I saw these ships, and had my glass to look well at them. I have been absent from England about three years, and I had thought the law was stringent enough. But if the law is not stringent enough, steps ought to be taken to make it more stringent; and there ought to be a heavy penalty upon ships at sea for not showing lights. In a foggy night in the channel, if ships have not their lights, what is the use of telling them to carry lights. I say there ought to be a heavy penalty; and that all ships ought to be reported which do not carry lights; which, if carried and seen, would prevent many of the collisions that take place.

J. A. Harper, Esq.: It is my ill fortune to have these cases to deal with. I know that persons have represented to me that collisions which take place are frequently the consequences of a careless attention to the rules of road; and I know that a great many persons have to pay very large sums of money from negligence in the observance of the rules of the road, or from causes which Captain Heathcote has pointed out to-night, and from imperfection in the rules of the road in several cases. And a great amount of property is destroyed for which no remedy is ever obtained, because of the uncertainty of this very rule of the road. But I understand that the question to-night is confined to the question between steamers. The fact that the gentleman who spoke last has come up the channel in a steamer and seen a great number of steamers without a light, is scarcely the point to-night. It may be a question for discussion another evening, whether some alterations may not be made in order to give greater protection to sailing ships with respect to each other, and to steamships with respect to sailing ships. But the simple question, as I understand it, to-night, is a question between steamships. I do not think the gentleman who spoke last was here at the commencement of Captain Heathcote's address. I think he said he came in at a late period. It is quite plain he did, because he seemed to treat a point which he thinks is in Captain Heathcote's system as important, which is quite incidental to it, not vital and not necessary to it at all; and with respect to which a blot has been hit upon and exactly described by Mr. Rothery, which has no importance, excepting so far as relates to the introduction of a new system of lights. Mr. Rothery will be glad, no doubt, to contribute to any other system which will have the effect of making it a good working system. It is not essential to Captain Heathcote's system at all, that the white light should be at a fixed height above the other. As I apprehend the point, it really has nothing important to do with the question. The great question is the relative position of the white light and the colored light solely; and Captain Heathcote has explained, that a vessel approaching another may see in a moment by the relative position of the white light and the green light, or the white light and the red light, the course which that ship is steering; and also may see in a moment, under ordinary circumstances, not the extraordinary circumstance of an intense fog, when no human precaution can be taken, but under ordinary circumstances may discern in a moment the slightest change in the course of the vessel approaching, and shape her proceedings accordingly. Captain Heathcote has suggested a system which it is quite evident will work with infinite accuracy, namely, the placing the white light in such a position that the line of vision between the white light and any one of the colored lights will show that the keel of the vessel is at four points—*i. e.*, that she is steering a course four points from the reverse side of bearing. Any one seeing those lights will know in a moment the exact course of the vessel. And it is quite plain that if that course is any other—if the line of vision forms any other angle than that four points, you can observe it to a nicety, and you will also detect the slightest change. If she ports her helm, you will see that in a moment; if she starboards her helm, you will see that equally. When I say in a moment, I mean in sufficient time to enable you to alter your course accordingly. I think scarcely anybody is aware of the enormous consequences of the establishment of any signal system by which one ship can ascertain the course, and the change of the course of another ship approaching. A vast amount of property is imperilled almost every night by the want of some such system. It is quite impossible for a ship seeing the lights of another ship, as they are arranged now, to get such an indication as will enable her to guide her way. They just know one single circumstance. They see the port or starboard light of a ship, and anything more than that they know not. They discover the relative position of the two ships when it is too late to avoid a collision. Then, I must say, you must have a stronger light when you are approaching a ship, a stronger red light at the spot where the red light should be, and a stronger green light at the spot where the green light should be. That would be a very important portion of Captain Heathcote's system. Almost all maritime countries have adopted the rule of this country; and I have no doubt it would not be exceedingly difficult to get a general concurrence to a change in the law of this country.

The Chairman: No change is required.

Mr. Harper: The establishment of such a system then will not be so difficult as I anticipate.

Mr. Pritchard rose to offer some observations.

The Chairman: I know there are some gentlemen present who are anxious to hear Mr. Latham's paper on gun-cotton cartridges, and I believe they would like the present discussion to be closed for this evening; the question will no doubt be brought before the Institution on another occasion. I will now call upon Captain Heathcote to reply.

Captain Heathcote: I think the chief question raised was about the height of the white light. The principle of the height is necessary in this particular. This being the position of the lights, when they are seen in one line, or one beneath another, the four points, or 4.5 degrees of angle, is very well defined. But the question is to measure, to judge, and to estimate the intervening angles, that is an angle between the four points and the end-on or between four points and any greater angle. For that reason the proportion of height is necessary; because if the proportion varied, the angle between the lights when seen obliquely would be very different. For instance, if one ship adhered to this proportion she would show her lights at two points in the position shown in the diagram; whereas, if another vessel showed her bright light at a lower level, she would show it at a different angle, and thereby represent herself as steering a different course. For that reason proportion is necessary, and for no other. But the particular proportion of the equilateral triangle is not essential, the principle being that a proportion be fixed and universal.

Mr. Rothery: Quite so. Captain Craufurd's principal remark was about the necessity of a good lookout and a good eye. I believe it cannot be disputed, that with the best eyes and the best lookout, you cannot tell a ship's course. That is the case. I do not think I have made any mistake in that diagram, (No. 1.) The green light there shows nothing; you may keep as good a lookout as you can, and yet the green light will show you nothing except that the starboard side of the vessel is presented towards you from a line very nearly ahead to ten points round the compass. It is no guide to the course of the ship; and it is necessary to know the course of a ship to avoid collision.

Mr. **Harper**: One remark. With respect to the height, it seems to me that the lower the light the more distinct it would be.

Captain **Heathcote**: That is what I say. I believe the equilateral triangle is not the best. The better proportion is when the height of the masthead light is equal to half the distance between the side lights. You will observe that with this proportion the angles are more easily read than with the equilateral triangle. But a possible objection to that occurs to me, that the white light at that height above the level of the side lights might in small vessels be too low.

The **Chairman**: I must confine myself to very brief observations. I feel perfectly certain that we have not had sufficient time to discuss the subject on hand, for we have only partially entered into it. I trust it will be resumed another evening this session. I would only say at the present moment, with respect to the difficulty of placing the red and white lights before the foremast, I see a difficulty in trimming them when you get into a sea. That is a difficulty which, as a practical seaman, I am afraid of. I will not detain you any longer, except to ask you to join me in a vote of thanks to Captain Heathcote for the able manner in which he has brought this matter forward.

Monday Evening, June 18, 1866.

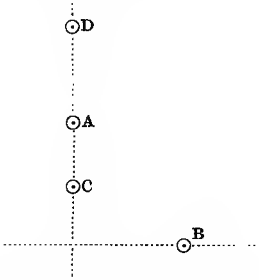
Vice-Admiral J. H. CODRINGTON, C. B., in the Chair.

ADJOURNED DISCUSSION.

The **Chairman**: Captain Heathcote has been kind enough to come here this evening with the view of a further discussion taking place on the subject which he introduced to us at a former meeting, and the reading of the paper on which subject has given us much pleasure and a great deal of information; and also in the hope that other officers may make suggestions on the subject, so that we may all of us be able to form opinions as to the best system for preventing collisions at sea at night. I think it would be desirable if Captain Heathcote would be good enough to give a short statement of what took place the other evening.

[Captain **Heathcote** then made a short statement of the principle of the improved arrangement of the lights of steam vessels by him proposed and described in the paper read on the 16th April last.]

Captain **Heathcote**: I should now like to make a few remarks upon the question of *the height of the bright light*, because, when the paper was read, some gentlemen expressed an opinion that it was not necessary to have any fixed proportion between the height of that light and the distance of the side lights in front of it. As I understand it, this is an essential part of the arrangement. I would explain that it is so in this manner: Supposing that the height of the bright light is fixed at the proportion which I at present consider best, then A and B, in the accompanying diagram, will represent in elevation the positions of the bright and the green lights, respectively, of a vessel, which is beam-on to the observer—that is, steering at right angles to the line of bearing, because the green light B is seen as far to the right of the bright light A as that light is above the level of the green light. And this is irrespective of the size of the ship; it is a matter of proportion only. And if any other proportion be adopted for the height of the masthead light, so long as that proportion is fixed and known, and universal, the same object is attained. Thus, if it were thought better—and perhaps it might be better—that the height should be only half that above mentioned, then C would be the position of the bright light in relation to the green light B, when the vessel seen is beam-on. On the other hand, if the height fixed be double what I first proposed, then D and B would be relative positions of the lights under the same conditions. Whatever the proportion be, if it be fixed and universal, as I have said before, the lights whenever seen will tell an unerring tale; but if there be no fixed proportion for the height of the bright light, then any indication, except that of the four points on the bows, must be liable to some degree of misinterpretation. I admit that some idea, and perhaps a valuable one, would still be given of the course steered by the vessel seen; and thus, be the height of the masthead light what it may, the proposed arrangement would be an improvement on the present absence of arrangement, but that a misinterpretation to some extent would be involved is very clear; thus, a ship carrying her lights in about the proportion represented by C and B when beam-on, will show them in about the relative positions of D and B (for we are dealing with proportion, not with height or size) when steering a course about five points instead of



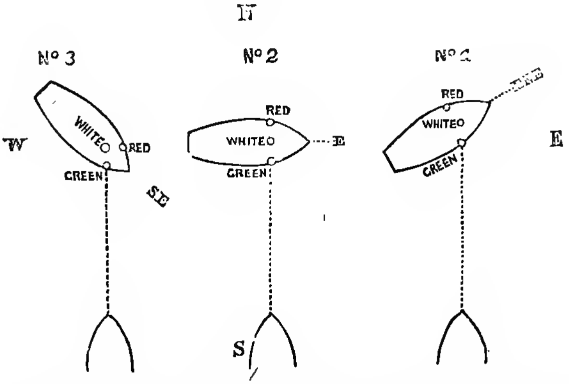
eight points from the line of bearing; and thus if one ship carries her lights in this C B proportion, and another in the D B proportion, although the fact of the green light being observed to the right of the bright light is a sure indication that the ship is steering *more* than 4 points from the line of bearing, it cannot be known whether her course is 5, 8, or 9 points from the direction in which she is seen. But this *can* be known if the proportion of height is fixed and universal, and this is my reason for urging this point as an important one in the system proposed.

W. Stirling Lacon, Esq.: I was present at the last meeting, and I found that very early we departed from what I considered the main object of the paper, which was to determine in what position the lights of steamers should be carried. A gallant naval officer went into a question which I think was rather foreign to the subject—namely, portable lights. I believe those portable lights are very valuable as accessory to fixed lights. But I think it is only justice to Captain Heathcote that we should first of all express an opinion upon the system proposed by him, and then go into the wider subject. There was also another gallant officer who said he was coming up the channel lately, and that he noticed vessels carry no lights at all. That is an important point also; but it ought not to interfere with the subject of this paper, especially as I believe that such questions will very soon occupy the attention of the country, and that those persons who systematically break the law shall be made "to answer to the law." In order that I may not depart from the question myself, and that I may not unnecessarily occupy your time, I will, if you will allow me, read from some notes which I have prepared, after a careful perusal of Captain Heathcote's paper, which he sent to me some days ago, because I think upon such a momentous subject as this no one should put forward anything that is not well and properly considered. Perhaps I may be repeating, to a certain extent, what you have just heard explained by Captain Heathcote, but I will be very short.

"At the last meeting a good deal was said, and nothing agreed to, as to the height of the *bright or white light*, and its value, as regards the system proposed by Captain Heathcote. It is fortunate that the value of the system, as proposed, does not, said Captain Heathcote, depend upon the height of that light. That light, although it may come into operation in Captain Heathcote's system, has been adopted for a totally distinct purpose. It is a light ordered by Act of Parliament to be carried at the foremast-head to distinguish steamers from sailing vessels, 'so fixed as to throw an uniform and unbroken light over an arc of twenty points of the compass, so fixed as to throw the light ten points on each side of the ship,' &c., &c. It is, in practice, carried below the foreyard to keep it clear of ropes, and before the sail when the square foresail is set; these positions are probably, under all the circumstances, the best. But if it was carried so low as Captain Heathcote prefers, it would have the broader portions of the head-sails, when set, interfering between it and the horizon, and if so low as to form the right angle triangle, as depicted in the diagram, you will, in all probability, lose it altogether when the head-sails are set; for it will be interfered with by the fore stay-sail, and when the square fore-sail is set it would be obscured altogether.

"What Captain Heathcote has done is to direct attention to the fact that, although by law, certain lights are ordered to be carried, namely, a green light on the starboard side and a red light on the port side; yet, as no directions are given as to the exact position of those lights, whether they are to be carried before or abaft the beam, it is impossible to tell what is the direction of an approaching ship's head, and what course she is steering.

"If, for instance, in a dark night, your own position being *South*, a ship (No. 1) with *her green light fixed two points abaft the beam*, is seen with her green light and bright light in one, her head will be E.N.E. If another ship (No. 2) seen immediately afterwards with *her green light fixed abeam or abreast of the bright light*, is seen with her green light and bright light in one, her head will be E. And if a third ship (No. 3) seen immediately afterwards with *her green light fixed four points before the beam, or four points from the bow*, is seen with her green light and bright light in one, her head will be S.E., and each ship is carrying her lights according to law.



"This, then, is the fact, that in consequence of the Act of Parliament making no provision as to the position in which the green and the red lights respectively shall be carried, you may have either of them on with the bright light, and you cannot tell within eight or ten points which way the ships head is, and which way she is steering. Captain Heathcote proposes to remedy this by making all steamers carry their lights *in a* *fixed relative position*, and for his suggestion I think he deserves the thanks of the country and the shipping interest.

"He proposes that the red and green lights should be carried (*in all cases*) four points before the beam or four points from the bow; then, he says, if a ship is seen with her green light and bright light in one, you will know the direction of her head, and that if she opens out her green light to the left of the bright light, you will know that she is following what is considered by some as the 'Rule of the Road' by porting her helm, and you will soon see her red light; *or, that as regards yourself*, you are crossing her bow, and that great caution is necessary till you open out her red light. On the other hand, if the green light opens to the right of the bright light, you know that the ship is either putting her helm to starboard, or that you are passing astern of her; but Admiral Collinson, who was in the chair at the last meeting, and who is a practical man, and whose opinion is worthy of respect, says, that if you place the red and green lights so much before the foremast, he sees great difficulty in trimming them when you get into a sea, for the *rule* must be applicable to all steamers of whatever construction.

"Might not the same object be attained, therefore, by *fixing* the red and green lights abeam or abreast of the foremast and the bright light, or two points before the beam, although the position may not be so desirable as that suggested by Captain Heathcote. I am aware that it was said by Mr. Harper at the last meeting that by placing the three lights in one vertical plane there might be a difficulty, but would the difficulty be as great as that pointed out by Admiral Collinson as attending the former plan?

"Would it not be possible with the *lights abreast* to ascertain the position of the approaching ship's head, and what she is doing, and to regulate your action accordingly?

"If the approaching ship, with her lights in one vertical plane, is steering the same course as No. 3, she (the approaching ship) will have *hers* considerably open. If she opens them more, you will know that she is following what is considered by some as the Rule of the Road, by porting her helm, and you will soon see her red light, or, *as regards yourself*, that you are crossing her bow, and that great caution is necessary till you open out her red light. On the other hand, if the lights close, you will know that she is either putting her helm to starboard, or you will be passing astern of her, and when the lights are in one she will be broadside on. As I said before, I am free to admit that the angle proposed by Captain Heathcote is the most desirable, and ought to be adopted could all the objections, such as the one raised by Admiral Collinson, be got rid of. Whatever may be the future position of the red and green lights, there can be no doubt whatever that *a fixed relative position* for the lights in all steamers is an actual necessity.

"So convinced am I of this, that in the hope of strengthening the hands of Captain Heathcote in his good work, I do not hesitate to express it as my opinion, in which I trust I shall receive the concurrence of the meeting, that, 'there being no provision in the Act of Parliament as to the relative position in which lights on board steamships should be carried, it is desirable that the position of the green light on the starboard side, and the red light on the port side should *be fixed* by law.'"

Before I conclude I would make a short remark upon a supposed case of two vessels situated in the position of the "Black Prince" and the "Araxes" mentioned in Captain Heathcote's paper.

The question must not be looked at from the point of view of an intelligent captain of a ship, but from that of a half-hazy, half-sleepy, half-instructed master, who has honestly endeavored to make himself acquainted with the Admiralty instructions, diagrams, and many hundred clauses of the Merchant Shipping Act.

A is steering north, and sees right ahead the green and bright light of another vessel B. The night is very dark, and the lights only can be seen; *B's green light is well open to the left of the bright light*, and A's captain imagines that B is steering "end on, or nearly end on, so as to involve risk of collision," and that he must put "the helm aport, so that each may pass on the port side of the other."*

He follows, therefore, what he believes is "*the Rule of the Road*," and *ports his helm* accordingly.

But B is steering E. or E.S.E., with her colored lights, perhaps abaft the mainmast, *she is moving rapidly*, and her captain first sees A rather later than when A first saw him, *he has passed a little on A's starboard bow*, and A's lights, namely, a green and a bright light, are nearly abeam.

He thinks, therefore, he has only to continue his course, and that the ships will pass in safety.

Presently, however, B's captain sees A's red light, and that she is rapidly coming up with and endeavoring to pass ahead of him; A having ported his helm (*the Rule of the Road and porting the helm* occurs to him also.) It is too dark to judge of distance, he puts his helm hard-a-port, but it is too late, and a collision takes place.

H. C. Rothery, Esq.: With your permission, Sir, I would wish to make a few observations upon Captain Heathcote's paper. I regret to have to say anything that would seem to be in disparagement of what has fallen from Captain Heathcote; for no one can have a higher opinion of the ability shown in the paper than I have. There is, however, one point on which I ventured to address a few observations to the meeting on the last occasion, as to the height of the white light with reference to the red and green lights. And although I had not the good fortune to be present when Captain Heathcote began his observations this evening, I came in, I think, before he had addressed himself to that particular point, and nothing that I have heard to-day has induced me to alter the opinion I had previously formed; at the same time, it is probable that Captain Heathcote may be right and I may be wrong. The point in Captain Heathcote's paper that I refer to, I could explain much better with the diagram than without it. I came in when Captain Heathcote was describing this diagram, and the observations that he made, if I recollect rightly, where these: You observe that if this vessel ports her helm, the red light closes in with the white light, if this vessel starboards her helm, the green light opens to the white light. The observations that he made had reference to nothing else but the closing and opening of the red and white lights, or the closing and opening of the green and white lights; it all had reference simply to closing and opening of the lights.

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* Vide Art. 13, Steering and Sailing Rules, and Merchant Shipping Act, 1862.

Mr. Lacon: Did he not say opens to the right and opens to the left?

Mr. Rothery: Quite so. Moreover, Captain Heathcote stated that some vessels might like to carry the white light up high, and others might carry it low. This is, in my opinion, one of the strongest reasons why you cannot have any fixed proportion between the beam of the vessel, or the distance between the two colored lights and the height of the white light above the deck. If you draw a vertical line passing through the green light, whether the white light be high or whether it be low, it retains the same horizontal distance from the vertical line. I think that Captain Heathcote has given too much importance to the variation of the angle, which a line drawn from either of the colored lights to the white light makes with a vertical line passing through the white light. Now I think that angle has nothing to do with it at all. Supposing a vessel had another four points on her bow, the colored light and white light of the former would be seen vertically, one above the other; now if the vessel put her helm either to port or to starboard, the immediate effect would be to throw the lights out of the vertical to the right or left. Whether the white light was high or whether it was low would make no difference, it would be thrown to the right or left of the colored light. I have here three small tapers which I think will illustrate what I mean perhaps more clearly than anything else. I will now light and fix these tapers. (The speaker here lighted the three tapers, colored respectively red, green, and white, and then fixed them on the diagram of a vessel in the positions which would be assigned them by Captain Heathcote.) If the vessel is coming end-on toward the Chairman, you would see all the three lights. Supposing, for instance, I am going in this direction, so that I am four points away from the direct line towards the Chairman, then the Chairman would see my green light and my white light. If I port my helm at all, then my white light opens to the left of the colored light; if I starboard my helm, it opens to the right of it. Whether the white light be high or low appears to me at present to make no difference. The important part of Captain Heathcote's system is whether the white light is to the right or left of the colored light, and whether the lights are opening or closing. Theoretically, no doubt, it is of importance to know distinctly whether a vessel is two points and a half or three points; but, practically, it does not matter much. It is a matter of much greater importance that you should know which way a vessel is opening her lights, which way her helm is being put, than it is that you should know whether she is two points and a half or three points. I thought there was a great deal in the remark made by Mr. Lacon, that there is only one place in a ship, namely, the foremast head, where you can generally hang the white light. And inasmuch as the foremasts differ in different vessels, it would be extremely difficult to put the light in such a position that it could be clearly visible, and yet be at some fixed distance, say half the beam, or the whole breadth of the beam above the deck. Supposing, for instance, a ship shows two points open, you see the white light and the colored lights open, and the same if she was three points, or only one point; and, no doubt, there might be a difficulty in ascertaining exactly the number of points; but I do not think you could trust a seaman to determine accurately to one or two points, even if the white light was at a medium fixed height above the deck. All my observations have reference to that particular point. In other respects I think Captain Heathcote's observations and his system are most admirable; and I do perfectly concur with the gentleman who spoke last, that it is a matter which ought to engage the attention of this Institution, and that they should call upon the Government most urgently to put the colored lights in some fixed position relatively to the white light. I entirely concur with that gentleman that four points on the bow would be the best position for the colored lights, for then you would get the two lights in one when you are four points on the bow; and you would much sooner see a change, of course, whether the white light opened to the right or to the left of the colored light. In small vessels there may be a difficulty in carrying them four points on the bow; that is a question for practical men, but if you could, I should say undoubtedly that the four points' position is the best; under any circumstances, however, I think that Captain Heathcote's system is an immense improvement upon the existing system.

J. A. W. Harper, Esq.: In respect to that question of the white light above the colored light, it seems to me that the great point is the nearer the white light is to the colored light the more distinctly and more clearly every variation in the position of these lights is seen. So that, if you put the white light at a considerable elevation above the colored lights, the indications to a vessel at a distance will be much less clear, much less distinct than when they are nearly in the same horizontal plane. Supposing they are in the same horizontal plane, a vessel approaching, seeing those two lights in line, the white light a little above the other, knows the course of that vessel to be four points to starboard or port of that line, the least change in the course, when the lights are in that position, is very distinctly seen. It does seem to me that those indications are much less distinct when the white light is at a considerable elevation above the other lights; the white light should perhaps be sufficiently elevated to be seen above the colored light distinctly and clearly when the vessel is four points on the other's bow, but yet not so high as to make it difficult to discern the delicate differences which are produced by changes of course in the approaching vessel. It seems to me that a difficulty attends Captain Heathcote's system. What becomes of these lights when the ship's stay or square foresail are set? If I am correct in thinking that the system is more accurate, when the white light is lower, *i. e.*, nearer to the colored lights, if you keep the colored lights on the ship itself, the system is almost destroyed when the ship is under sail. I do not know whether that is so. Supposing it to be so, when navigators are looking for indications of the course of an approaching ship, I imagine their view might possibly be so distracted by the lights being obscured by sails that a very serious mischief might follow. Then comes the question, is it not possible to arrange the lights in such a manner that you may secure all these indications without those difficulties. Suppose a jackstay, with an arm to the right and to the left, and a light at the end of each arm, and the white light in the centre, is it not possible to suppose that the lights might be arranged in this way, so as to get over the difficulty I have pointed out?

Mr. Rothery: I should like to say one word about what Mr. Harper has said. No doubt it would be most important if the lights could be as much as possible upon the same horizontal line, because you do see a variation much more rapidly than if the white light is higher. But then, inasmuch as the white light must be placed in the middle of the ship, it would be obstructed very often by sails or by persons moving about, unless you put the whole of them up high, in fact, on a level with the foretopmast head. And considering that these lights have to be carried, both in fine weather and in rough weather, I would ask what kind of support you could give to your colored lights in that position, so as to prevent their being blown away. No doubt this point is a very important one if it could be attained; and I should like to hear what Captain Heathcote has to say on the subject.

Captain **Burgess**: Admiral Ryder, being unable to attend, has sent a few remarks, which, with your permission, I will read to the meeting:

"June 17, 1866.

"Sir: I regret very much that I shall not be able to be present at the discussion on Monday. Captain Heathcote's proposal appears to me to be very valuable, and I think the position he advocates, viz: that the side lights should be four points on each bow, measuring from the masthead lights as a centre, is the best, provided the lantern is so fitted as to be easily accessible in bad weather, and so strongly fitted as to be able to resist the blows of seas, seeing that the position is rather exposed.

"A lamp, invented by a Mr. Brown, of Deptford Dockyard, and which has been fitted for binnacles, has the valuable property of heating its own oil, which prevents the necessity of retrimming for many hours. I believe that lamps of this description, if trimmed with Colza oil, would not require to have their wicks cut more than once in twelve hours, provided the reservoir was slightly raised above the wick, so as to produce an overflow of oil.

"If the side lights can be so fitted as not to require to be disturbed throughout the night, the only objection to the exposed position recommended by Captain Heathcote would be removed. The great advantage of the position proposed by Captain Heathcote, viz: the *side lights four points on each bow*, is, that that position is the middle point between the extremes of danger and safety, viz: between the position in which the ship's head is pointing at you, and that in which her course is parallel to yours. By the two lights being in one in this central position, any variation to the left or right, showing that the angle included between the courses of the two vessels is *changing*, is easily detected at once. Whereas if the side lights were abreast of the mast-head lights, and the ship is first seen in the same position as above, any change in the angle included between the two courses will not be so easily detected, as it is much easier to detect changes in a small angle than in a large angle.

"Whether both ships are *under weigh*, or one is at anchor and the other under weigh, no conclusion could be drawn by the captain of the ship at anchor in the one case, or by either of the captains in the other case (even if Captain Heathcote's proposal was enforced by law) that the other ship *had put her helm either one way or the other*, merely because the green or red light was seen opening out to the left or right of the masthead light; but if the relative positions of the side-lights and masthead lights are regulated by law, the captain of one ship, on perceiving the approach of another ship, would be guided to a much safer conclusion as to whether there is any risk of a collision, and as to what steps ought to be taken to prevent such an accident than if, as at present, the side lights may be anywhere.

"Yours, faithfully,

"A. P. RYDER."

Commander Colomb, R. N.: As I was one of the unfortunate culprits who went a little further than he ought to have gone on the last occasion, I must endeavor not to go so far this time. Several remarks have been made by different speakers to-night, which I think call for a little further notice. It is quite possible that one might make a very slight amount of confusion—confusion worse confounded!—an unpractised speaker very often does that. However, I shall endeavor to address myself to two or three points, which I think want to be made a little clearer. First of all, I would take Admiral Collinson's objection to Captain Heathcote's proposal. He said he thought that there would be a difficulty in trimming the lights if they were placed in a fixed position so far forward. Now, on board a great many of the larger class of men-of-war, the lights never appear on deck at all; they are trimmed between decks, in a small place built out through the ship's side, where the lanterns are placed with very strong plate-glass outside. You can carry that system to any extent in smaller vessels, because there is no reason why there should not be a communication between the deck below and the inside of the glazed niche, which will show outside the ship, so that a lamp may be taken inside this covered passage, trimmed between decks, and replaced. It need never appear on deck at all; it need never appear in the air; so that, as far as that goes, I do not see any objection to the admirable proposition of Captain Heathcote. Now, there have been a great many questions raised, if I understand it aright, as to the necessity or non-necessity of a relative proportion between the height of the mast-head light and the breadth of the ship, or rather the breadth between the two lights. It has been said that whatever that height be, let it vary in ships, that still you will ascertain alterations of helm by the closing or the opening of the green or red lights from the vertical line of the white light. Now if you only wanted to ascertain changes of helm, that of course would attain your purpose. But that is not all you want to ascertain. You want to ascertain, on first sighting a ship, without any change of her helm whatever, what her course is: because, the very moment you see a ship at sea, it is desirable you should at once be able to make up your mind what your own course should be. The great difficulty you have on meeting a ship at sea, is to ascertain at once how she is steering, so as to understand what lies before you, and to see what your proper course should be—whether to follow the rule of the road, as they call it, or go contrary to that rule of the road, which is often the rule of safety. Unless you have a fixed inclination of the lights, for every difference of course of the ship you are approaching, from the line of bearing—unless that inclination be fixed in every ship, how is a seaman to form any judgment whatever as to the course the ship is steering? We will say, you have a ship abeam. You know you are abeam of her, because of a certain angle formed by the line joining the lights with the horizon. You see a certain distance between the lights. That ship may be much further off or she may be much smaller, but the two lines which join the lights form the same angle with the horizon; and whether the line be here or there, you know that the ship is steering the same course—you know you are abeam of her. That is the point that Captain Heathcote wants to establish first of all. Now, another point was brought forward. Mr. Lacon said there would be this difficulty, if the lights were brought sufficiently low down to make the height of the light a good proportion with the beam of the ship, the bright light would be covered by the head-sails. I should imagine that when the head-sails were set, we do not care so much whether she is a steamer, because she is governed by the wind; and if you do not see the white light at all, you understand that ship to be governed by the wind. Whether she is a steamer or a sailing vessel can make very little matter to you, you can ascertain her course by what the wind is. I had prepared some remarks opening up the whole question, but at this hour of the evening, and having very vividly before my eyes what has passed, I think perhaps it would not be advisable to go any further. The question is a very much larger one than the meeting is at present aware of. It is very well for us to lay down regulations as to the position of the lights, but the regulations as to the nature of the lights is only in a slight degree attended to. It is evaded by way of cheapness in the smaller class ships, and in some of the larger, to a very extraordinary extent. There are very few lights (mast-head and side lights) ordinarily supplied to ships which fulfil the regulations. There are very few side lights which show to two points aft the beam; there are very few mast-head lights which show to more than fifteen points of the compass. At present we cannot get the regulations obeyed, and we must first turn to the rule of having the law obeyed, and then we can go on making our laws with the certainty that they will continue to be obeyed. The question is such a large one that, though it is late in the session, I should be very much disposed, if the Council wished it, to draw up a short paper going a little further into the way in which the law is evaded, the construction of lights, and the general state of the case as regards those lights. There are one or two speakers beside me who would wish to branch out a little; and I think the feeling of the meeting is that, whatever the minor details of Captain Heathcote's plan might be, the plan itself is so admirable that it strikes you at once as being the thing that should be adopted and carried out. To my mind there can be no dissension about the matter. It seems quite certain that some plan of that sort regulating the position of the bow lights as regards the mast-head light should be adopted.

Mr. **Harper**: That strikes me as a most startling proposition, that a steamer under sail is governed by the wind.

Captain **Colomb**: So far as you are concerned only, on approaching her and making out her course.

Mr. **Harper**: There is considerable risk of interference by the sails of a steamship with the accurate, defined, settled system of Captain Heathcote. Is it true that a steamer under sail is governed by the wind? If it is not, it does seem to me that the system proposed by Captain Heathcote would be materially affected on occasions when sails were used by a steamer. It seems to me to be true that the system of Captain Heathcote would be much more accurate in proportion as you get the white light lower down, and the angle which it forms with the colored light more obtuse. It may be important to put the white light at any height contemplated by Captain Heathcote. But it strikes me it is dangerous in proportion as navigators have to depend upon accurate observations, and upon the view they conceive of the course of vessels by the indications of the lights, if those indications are, upon a particular occasion, obscured or done away with by the sails. If it is true that a steamer under sail is governed by her sails, of course you have independent indications which are quite different. It does seem to me that that question has not exactly been touched, namely, that there may be a chance of that excellent proposition of Captain Heathcote's being practically interfered with. Supposing that to be admitted, it is quite possible to consider whether the principles laid down by Captain Heathcote cannot be by some little practical alterations made independent of these difficulties.

Captain **Heathcote**: What Mr. Harper very much fears is that the indications might be false. I would remark, that where there is no bright light seen, there will be no indications. Where a green or red light only is seen, the vessel would be supposed to be a sailing ship, and treated accordingly.

Mr. **Ridgway**: I would remark that while everything has been said with reference to the position of the lights, nothing has been said about the duties of the officers on board ship and of the men who navigate the ship, a very material point. The question of collisions at sea is one of considerable importance. I, unfortunately, on one occasion put twenty-nine persons on board a ship. They got as far as the Downs. Either a steamer ran foul of the ship or the ship ran foul of the steamer. Being called upon to pay money to the people who embarked, I inquired, "Who is to blame?" It proved, on investigation before the Trinity House, that the ship had been the cause of the accident, owing to the negligence of her officers and men, so I paid no money. I think that many collisions take place at sea, not from the wrong position of the lights, but from the inattention of the persons on board. Frequently the owners of the ship appoint to the command inefficient individuals. A case occurred a few days ago where the pilot of a ship found that the officers of the ship were drunk before he left the ship.

Captain Henry D. Grant, R. N.: I only wish to say that Captain Heathcote's system is one that merits the full approbation of every seaman. As having had command during the last four years of cruizers in the most dangerous waters on the coast of America and New York, the difficulty I practically found was in knowing exactly the position of the lights. Very often I have known, particularly in French vessels, that the lights have been placed in steamers right abaft the mizen mast. In some they are aft the bridge. So great is the uncertainty as to the position of the lights, that very often, when I have seen a vessel, the first question that has come into my mind has been, "Where is that vessel's light placed?" Because it makes a very material difference whether they are placed on the bow or aft. One vessel I commanded was a very small gunboat; and I think I may be allowed to be a judge as to whether there was any danger in placing those lights forward. During that time we passed through three hurricanes, and we never had the lights once washed out or damaged in the slightest degree. The place was a box built into the bulwarks forward, with strong plate glass. Once only we had a plate glass smashed, but even then the light was uninjured. But I do think it is a question of very great importance whether we could not have better lights. The lights of Mr. Brown have struck me as being the best adapted for our purpose, especially those for binnacles. With regard to the observations about vessels being under sail, I do not think that is of so very much importance; because if we are out in the broad ocean, and we see a vessel with her steamer lights, whether she is under sail or under steam, we are to treat her as a steamer. But the importance of Captain Heathcote's system is in close waters, such as running up a river, when the commander of any steam vessel would be highly culpable that carried sail. We want then to be in the position to do any possible thing under steam, and no vessel can do that if she is carrying sail. With regard to another question that has been mooted, the responsibility of the officers, I must say that when I have seen mates of merchant ships keeping watch and watch, I have thought it was a very hard matter for them to be able to look after lights, or to have their minds clear in very difficult water.

The Chairman: However we may differ as to some of the details of this subject, I think we must all feel extremely obliged to Captain Heathcote for the clear and lucid way in which he has brought this subject before us; and I must add, the very efficient system which he has brought forward. We are also very much obliged to the gentlemen who have favored us with their opinions and criticisms on the subject, because I feel convinced that the more a subject of this sort is investigated and criticised, the more nearly we shall arrive at the truth, and add to the efficiency of the service. There are various points involved. I do not know whether it is necessary to go into them all. For myself, I should prefer naturally the position that Captain Heathcote proposes for these lights; but I see some practical reasons in the case of the mast-head light against that. The only place that I can see for a mast-head light to be constantly in view at all times, in all cases, and in all positions, for it must be always that, is at the mast-head. I cannot see that it would do anywhere lower down. If I place it lower down, nearly on the level with the side lights, as was proposed by one gentleman, there are so many objects in the centre of the ship that would interfere, right or left of the bow, with the sight of that light. Moreover, a steamer, though under steam, may have a sail set; may sometimes set her jib, sometimes set her foresail; and we know that any light low down on the foremast would thus be invisible. It is only above the fore-yard that a light on the foremast can be seen permanently, some put it on the forestay; but it must be decidedly above the line of the foresail or before it. Now, an objection was taken to the position of the bow lights being, as Captain Heathcote proposes, a certain distance before the line of the foremast. For myself I see no objection to that. One of the gentlemen who has favored us with his opinions, as having commanded a small vessel, has given us a practical case in point. I can myself mention that when I commanded a line-of-battle ship in 1854, I was one of the first who placed the bow lights in the position described, on the middle deck well forward, and they stood in every case of bad weather. They were trimmed from the main-deck with all the advantages that we have heard mentioned to-night. I believe that the same thing can be done with care in small vessels. I do not want to go into the duty of officers seeing that their lights are trimmed; for if there is one thing in which I have found officers and men equally ignorant and equally careless, I must say, it is in the trimming and the care of lights. They do not know the conditions under which oil is burned. Many of them shut up a lamp and think it is to burn without air. Having had the superintendence of an Admiralty dockyard, I can speak from long experience upon that point. I have never seen grosser ignorance on the part of officers and men than upon that point. But I do not see what objection there is to have the deck lights in the position Captain Heathcote suggests, before the foremast. I think we could always carry them there, taking care to provide them with fresh air, and to protect them from the stroke of the sea. I can see a great advantage also in knowing exactly when that angle of 45° comes on. We should lose that entirely, if the lights were put in the same plane; that is to say, the line of the beam of the ship. Then comes the question, whether that actual angle that Captain Heathcote wishes is necessary in all cases. There I conceive there may be a considerable difficulty. Ships are so different; and the length of the foremast differs so much in different ships, that I apprehend it would be very difficult, judging by what I see of the various beam of ships and the various length of foremast—for I always look to the necessity that the light should be above the foreyard—I think it would be very difficult to maintain that angle. But I think we could always maintain that the side lights being before the line of the foremast, when showing in line with the white light, should give that angle of 45°. I think that is a very great principle, and one of very great importance. Another point was started about the lights themselves. There is no doubt that we can very much improve our lights. I heartily wish that the subject could be gone into another evening, for it is somewhat late this evening, and I must tie myself down to the subject before the meeting, and not go into the nature of ships' lights. The subject before us is an improved system of lights as to position, and that is what I wish to keep to. But I may remark that we may improve our lights very much. But I really think there is something more for us to do; all of us who are in command of men must really try and improve their common sense. I have seen lamps of the very best construction that the Admiralty could put into ships, and when I have gone round the decks, they were completely filled with black. They might almost have been green or red lights, so obscured was the light, and yet those gentlemen who had the charge of them thought they were doing their duty. Therefore, while we are talking about lights, we must see that those who have charge of them must know how to treat these lights. I think that a captain ought not to be above seeing that everything is done properly on board his ship. He is as much bound to see that the lamps are clean as that her head is steered correctly. We may improve our ships' lamps very much, but we must do something further than that; I do not know a better way of doing it than by discussing the subject before a meeting like this. We shall all learn something. I have learned something at the lectures, on both this and the previous evening, from Captain Heathcote, and from the gentlemen who have spoken. And, once for all, I must say we are very much obliged to these gentlemen for the information they had given us.

Monday Evening, July 9, 1866.

Vice-Admiral H. J. CODRINGTON, C. B., in the Chair.

SHIPS' LIGHTS AT SEA.

By Commander P. H. Colomb, R. N.

The most recent Board of Trade returns tell us that collisions by night are about three times as frequent as collisions by day, and so far encourage us in placing a high value on the questions we have discussed on two previous occasions, and are to continue to discuss to-night.

They also tell us that the three most prolific causes of collision are, neglect or misapplication of steering rules, bad lookout, and neglecting to show the proper lights. In which sentences we find texts very apposite to the particular branches of inquiry we have entered upon, and very sufficient answers to those who might be disposed to think lightly of the disease for which we are endeavoring to seek a remedy.

We may further strengthen our position by adding that more collisions occur in clear and fine weather than in a thick and foggy atmosphere, while at the same time thick and foggy weather alone is stated to be the cause next in productiveness of collision to those already mentioned.

One by one I propose to examine these four causes, so far as they operate at night, avoiding the question of improvements in steering rules, which are in abler hands, and confining myself entirely to what is, or, in my conception, ought to be done with reference to lights fixed or temporary.

I think it will be admitted that the terms "neglect or misapplication of steering rules" embrace a very wide field, and that it is probable that had we the details of each case registered in the column under that heading before us, we should find ample scope for argument over the majority of them. We should find it difficult to say off-hand exactly in what respects the steering rules were neglected or misapplied.

Every one knows that nothing is more difficult than to balance the blame in a collision case, and if we are to judge from the casual conversations of nautical men, law and common sense come into as severe collision as the ships which brought them into opposition.

While it is an absolute necessity that there should be a sea "rule of the road," it is also clear that there must be an exempting clause, such as Article 19 of the Shipping Act Regulations; and to my mind it seems as if the heading "neglect or misapplication of steering rules" would be more correctly rendered as "one ship's acting on the rule of the road and the other on the exempting clause."

Considerable judgment is required when danger of collision approaches whether the circumstances justify a departure from the rule of the road; but, taking the average of human nature, we should say, that imminent danger is not conducive to clearness of judgment.

Captain Heathcote, as I understand him, wishes, by his method of placing lights, to give persons in charge of ships at night the greatest possible time for the formation of their judgment, by the immediate detection of the course of any approaching steamer. He seems to think—and I agree with him—that give a man time enough to think of the proper thing in a doubtful case, and the proper thing will be done and collision avoided.

I have no doubt myself that were his plan generally adopted, seamen's eyes would in a few years get quite accustomed to estimate the course of approaching steam vessels, and men would have time to use their common sense, so as to avoid even an approach to a collision; they would not then, as is now too often the case, hesitate till the time for action is past, and then fall back on that refuge for the destitute, the Act of Parliament, calling out "hard a-port!" and defying fate with the law on their side.

If a man in charge of a ship at night could only be sure of the exact position and course of his approaching neighbor the moment she was seen, how calmly he could make his arrangements for clearing her! But every seaman knows the anxious and painful moments which elapse between the report "a light on starboard bow" and the attainment of certainty as to the approaching ship's course and distance. This state of doubt gives the judgment its first blow; the longer it is in coming to a conclusion, the nearer grows the danger, and the less chance is there that the judgment when formed will be correct.

These circumstances lead to cases when it is not possible to get time for reflection, where collision becomes so imminent that unless both ships obey the guidance of one common thought, disaster will result.

For cases of this kind Captain Bolton and I have prepared our "Warning Lights." It has always seemed to me that if, when the danger of collision is very near, one man could assume the direction of both ships for the moment, the danger would pass away.

These warning lights, of intense brilliancy, and a power capable of sending their light 20 miles, have been introduced by the inventors to meet the above cases.

They are colored red, white, and green, and represent efficiently during the thickest weather the present port, starboard, and masthead light, which are then invisible.

If a ship, close-hauled, lying-to, or otherwise not under sufficient command to avoid collision, perceives another ship coming down on her *starboard* side, and likely to foul her, she will instantly burn a *green* warning light. This will immediately alarm the approaching ship, and will cause her to *starboard* her helm, and so pass harmlessly astern.

A ship being approached by another on her *port* side will burn a *red* light, when the approaching ship will *port* her helm to go clear.

A ship may also, on approaching another end-on, or nearly so, burn a *red* light to show she is putting her helm *a-port* and to warn the other ship to do so likewise; a *green* light to show she is putting her helm *a-starboard*, and a *white* light to show she is keeping her course.

The *white* lights are also to be burnt by vessels at anchor when ships are approaching them.

The whole process of using these *warning* Roman lights, is therefore simply applying powerful lights to carry out to their full extent the Board of Trade Regulations for preventing collisions.

The lights are perfectly safe to handle, but are so constructed that they will ignite *instantaneously* when required.

Water-tight boxes are supplied with these lights, to be fixed on deck in convenient places so that they may always be at hand when wanted. The boxes are made to contain half-a-dozen, or one dozen of each color.

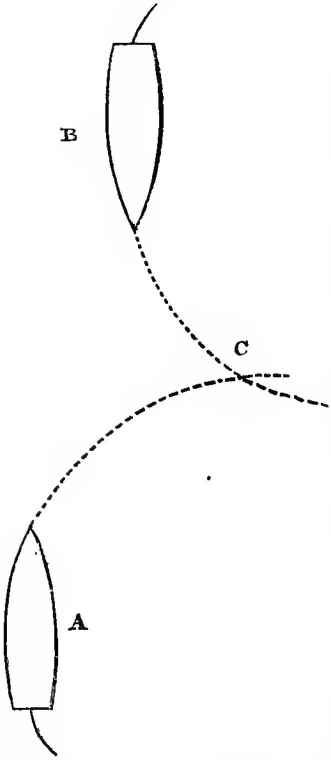
The *red* lights are on the left hand, the *white* lights in the centre, and the *green* lights on the right hand.

The *red* lights are further distinguishable *in the dark*, by having *one* ring on the handle, the *white* lights by having *two* rings, and the *green* lights by *three* rings.

To use them, it is only necessary to open the box, take out the light of the required color, remove the cap, and draw out the wooden plug quickly, the light will instantly burst into brilliant flame.

Now, if A, coming nearly into collision with B, could tell her which way to put her helm so as to agree with the movement she herself was making, less presence of mind on either side would be required, and there would be much greater certainty of avoiding accident.

Fig. 1.



Let me take a single case illustrative of the uses of these lights.

A and B discover each other on their starboard bows. B, being possessed of better eyes, and keeping a sharper lookout than A, forms an idea of A's course, and, following his common sense, starboards his helm. But B's lights are both bad, and badly placed, so A, laboring under his other disadvantages, is very far from clear about B's course; he therefore goes according to Act of Parliament, ports his helm, and comes into collision about the point C. Poor B of course goes to the wall in the Admiralty Court, or under a Board of Trade inquiry, because it is difficult to get at any distinct fact except that A ported her helm and B did not. B, profiting by his experience, practices calling out "hard a-port" as a legal solution of every difficulty and no doubt finds it answer. Now, if B, being quite certain of A's course, and of the proper mode of avoiding her, namely, by starboarding his helm, had been able to announce to A, by burning a green warning light, that she was doing this, or about to do so, A's doubts would have vanished, and, moreover, had she now ported her helm and brought about a collision, B would prove having displayed the warning signal, and A would legally as well as actually suffer damage. Or again, if A, being in doubt, ports her helm according to regulation and burns a red warning light, B may stop, or heave to, or port his helm alone, being certain of A's proceedings, but he assuredly will not put his helm a-starboard as we have seen him do.

The advantage of using *red* and *green* lights as signals in preference to others are manifest enough, as "red and port" and "green and starboard" are irrevocably connected in seamen's minds, and instinct alone will make a man call out "hard a-starboard" if a powerful green light appears suddenly before him at sea.

Equal in its evil effects with the misapplication of steering rules, stands, according to the returns—"Bad lookout." Here again we have a statement to which there are, as there were in the last, two sides. As a man may justify himself when charged with misapplication of steering rules, by appealing to the exempting clause, so a man, charged with keeping so bad a lookout at night as to bring on a collision, may justify himself by declaring that his opponent neglected to show the proper lights, and that that was the cause of the ship not being seen in time, and not his assumed inefficient lookout. And if the matter comes to trial there will be uncommonly hard swearing on both sides, rendering the ultimate decision almost a matter of hazard. One feels some curiosity when one sees it stated that 421 casualties by collision occurred in the six years ending December, 1864, which were caused by bad lookout, against 168 which were caused by "neglecting to show the proper light,"—I say one feels some curiosity to know by what process such conclusions were arrrived at, and how many of each class are in their wrong columns. Board of Trade enquiries into collisions are naturally rare, as those cases come more readily under the jurisdiction of the Admiralty Court in the shape of actions for damages. When, however they do so come—when the "Mary Jane" runs into the "Sarah Ann," takes her bowsprit out of her, and brings an action for the loss of her own port cat-head—the cause, after very elaborate argument, is commonly reported to end with the stepping in of the nautical advisers of the court who are "of opinion that the 'Sarah Ann' was to blame," and the plaintiff gets his damages. Now when cases of this nature turn upon a charge of "bad lookout" on the one side, and "neglect of showing the proper light" on the other, one feels anxious to know how the nautical advisers of the court come to a conclusion on the merits. Are the accused lights brought into court and examined? and if so, is there any one called in competent to examine them?

We had it stated here the other night, by a high authority, that a great deal of ignorance on the subject of lights prevailed in the Royal Navy; that statement I can most fully endorse, and I imagine that such ignorance must extend still more widely in the merchant service. Nor need we be very much surprised at this when we learn that many of the lamp-makers themselves are profoundly ignorant of the simplest optical laws, and understand very little indeed of the nature of the wares they deal in. When the Board of Trade or the Admiralty Court decide that the accusation of not showing the proper light is unfounded, who examines the lights to see that they are "proper?"—that is, according to regulation. Believing, as I do, in the wide-spread want of knowledge on the subject, and seeing the very inefficient and improper lamps which receive a ready sale at all our ports, I am tempted to believe that very little examination, if any, takes place. And until it is distinctly shown that the law will not uphold a ship carrying improper lights, we need not expect that improvement in them which is now so much needed.

In the case of the "Samphire" and "Fanny Buck," which has been once or twice quoted here, a great deal of evidence turned on the point whether the "Fanny Buck" had any *green* light showing, and, as might be expected, such evidence was conflicting. I did not make out whether the "Fanny Buck's" lamps were brought into Court, but I could not help wishing that I had the examination of them, for I conceived that I should have found her showing a light indeed, but such a light, and so placed, that no one could see it.

We may now ask the question, "What is a proper light?" And the better to answer this question I have, through the kindness of Mr. Nunn—I believe the largest, as he is certainly the best, manufacturer of ship's lights in London—been able to bring together some of the best, as well as some of the ordinary lights carried by ships at sea.

Let us take the masthead light first. The regulations state it is to be "a bright white light, so fixed as to show an uniform and unbroken light over an arc of the horizon of twenty points of the compass," that is, "from right ahead to two points abaft the beam on either side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles."

Now I must first say most distinctly that I have never yet seen any masthead light which fulfils this last condition. Five miles is a very much greater range for ship's lights than people are aware of, and I would give a great deal to be shown any permanent light fit for ship's use, which can be seen "*at least* five miles." The ordinary range of the best masthead lights does not, in the English Channel, exceed three and a half or four miles in the clearest weather.

It is, however, quite desirable to have a high nominal range for lights, even where it is at present unattainable, because it at least encourages makers to do the best they can towards it.

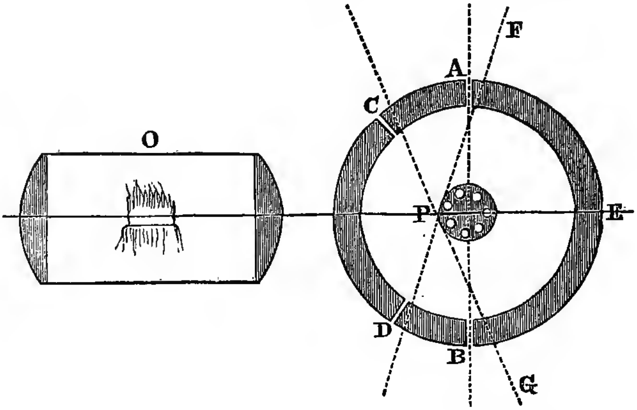
The other parts of the regulations are, however, quite attainable, but are, I am sorry to say, too often evaded in order to receive a larger profit upon the lamps, or else to reduce their price to merchant captains who are careless of the construction of their lights.

The glasses for masthead and bow lights are usually made by hand, in a cylindrical form like this produced, a plan and section of which is represented in Fig. 2. They are afterwards cut in the direction of the axis into the portions required to fill up the front of the lamps.

Now if I, being a lamp-maker, buy half-a-dozen of these cylinders, I can properly only make six lamps out of them, but if I am not particular as to regulation I can make twelve, which of course will make all the difference in my profits. If I cut the cylinder in the points A and B, at the extremities of its diameter, I can make a lamp out of each part, which will fully pass muster to the uncritical eye. But when one of these lights are hoisted at the masthead of a steamer, the full power of the light is only shown six points on each bow, instead of ten.

This may be clearly seen by a reference to the diagram.

Fig. 2.



E is the front part of the lens pointing right ahead; P the flame of the lamp; A E B the lens, which terminates at A and B. If the flame were a mathematical point, an observer very little before the beam would get the whole power of the light; but the actual size of the flame being considerable, every part of it which is hidden by the metal of the lamp is so much taken from the range. About two-thirds of the flame is hidden in this lamp from an observer abeam, which is just as much as to say that, supposing the light could be seen five miles ahead, it could only be seen about a mile and a half abeam. The full range of the light, so far as the lens goes, is only shown between the lines F P and G P.

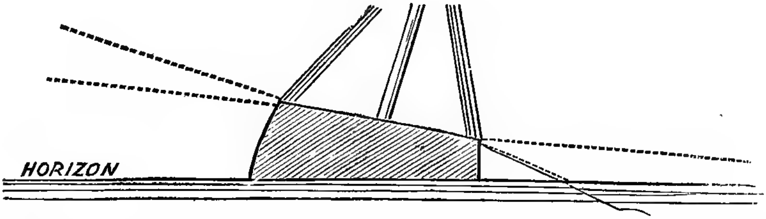
To construct a lamp according to regulation, only the piece C D should be taken out of it, and then the full power of the light is displayed over the arc from C round by E to D. But this latter cutting uses a whole cylinder, and is therefore more expensive, and the temptation of cheapness carries the day.

Exactly in the same way, but in a greater degree, does the snare of cheapness operate to undo the regulations regarding bow-lights. The colored lenses are made in the same manner as the white ones, in cylinders. One cylinder will only make two bow-glasses, when the regulations are rigidly fulfilled, although the difference between this cutting and that into three equal parts is so slight that one would not be inclined to call upon manufacturers to waste very nearly one-third of each cylinder. But the inferior lamp-makers do not rest here, for in the struggle after cheapness a single cylinder is made into four, five, and I believe even six bow lights, each never showing a full light abeam, and reducing the arc of light till it only shows five or six points on the bow, instead of ten. What amount of good lookout will enable a man to see the bow light of a ship which is ahead of him, and steering a course across his bows, if it only illuminates an arc of six points of the compass?

Owing to the difficulty of obtaining the requisite range for ship's lights by increasing the amount or brilliancy of the flame, the usual course is to compress the rays of light by means of lenses and reflectors. Very curious ideas of optics have developed themselves in the attempts of most lamp-makers to arrive at this result, of which specimens are here before us. Mr. Nunn's lamps are the only ones I have examined which are constructed on anything like scientific principles; and, doubtless, as he finds the subject becoming more ventilated, he will be able to make improvements which will succeed commercially, doubts as to which success are, at present, a drawback.

The effect of all lenses for ship's use should be simply to bend the rays, which would naturally proceed in an upward or downward direction, into one nearly parallel to the sea level. An objection to the practice exists, which has not yet been met. This may be understood from the diagram Fig. 3.

Fig. 3.



If the ship carrying lens lights has a very small list, say only five or six degrees, observers at sea lose their full power when a few points on the bow, and may lose sight of the lights altogether at a short distance when abeam, or nearly so.

To remedy this defect, the lights should all be carefully placed on gimbals, so as to preserve their perpendicular throughout all the motions of the ship. But then, again, this would make the lamps more expensive, and the marine public are not sufficiently alive to the necessity of the case to make it worth any tradesman's while to attempt such an improvement.

When we come to the very inferior classes of lamps which are sold and used, we find that in no particular do they reach the regulations. So far from the colored lights of this quality showing two miles, as called for by the regulations, I should think one-fourth of the distance would be an exaggeration of their range. And if we add to all these other defects bad oil, smoky and cracked glasses, leaky oil vessels, and charred wicks, all of which are the rule and not the exception—we shall get something of a clearer idea why collisions by night are three times as numerous as by day, and why a conveniently bad look-out accounts for so many of the mishaps.

There is yet one column of the returns to be dealt with, namely, that which states thick and foggy weather to be fourth in order in the production of collisions.

For penetrating through a misty atmosphere no sufficiently powerful permanent light exists, or is likely to be produced, and here it is that I hope an extended use of Captain Bolton's and my own warning lights will reduce the number of collisions traceable to thick and foggy weather in future years.

To be able to declare your position, and the direction of your head, in an instant of time to a ship coming down upon you in thick weather, must undoubtedly conduce to your safety at sea. And who is to say how many of these wretched casualties, such as occurred off the Start the other night—where a steamer runs down and sinks a schooner with all hands, in a period just long enough to see it *was* a schooner, and to hear a few drowning cries—would be avoided, were ships in the habit of carrying on deck and at hand boxes of such powerful lights, ready to be used at any juncture, and requiring no skill and almost no thought in their management.

It is our usual course here, I observe, not to close a paper pointing out defects in materiel or administration without suggesting a remedy, if only to furnish a basis for discussion and the expression of opinion.

The "warning lights" form in themselves one suggested improvement, and as I hear nothing but encouraging accounts of them, and as they have been already taken up by one or two large companies, I am disposed to hope this remedy will in course of time apply itself.

As regards the present defective construction of the majority of lights carried by ships at sea, I think it would be stopped, and their whole management improved, if the Board of Trade were to provide pattern lamps according to regulation, and place them in the hands of their officials at all the out-ports, to be exposed in the shipping offices or other place of resort for merchant captains. These latter might then be expected to learn more of the differences between proper and improper lights, and it would become more difficult to make sales of those which were not according to regulation. And then, again, when collision inquiries arose, which turned on the light question, the pattern lamps would be brought forward to condemn the guilty and exonerate the innocent.

But there is one improvement I should like to see in ships' lamps which is not touched on in any of the regulations yet. I mean the substitution of candles of a selected pattern for oil. Although no candles suitable for merchant ships have yet been manufactured which will give a better light than the six or seven wicks of oil usually fitted in the best lamps when first lighted, yet as the flame from the oil wick constantly deteriorates from the moment of lighting, while the candle flame does not do so, a candle will have given out, during four hours, a greater amount of light than oil. Candles also are open to none of the objections to oil. They are cleaner, and much less troublesome to manage; the glasses and reflectors of candle lamps do not become so clogged as those of oil. And lastly, by establishing a pattern candle as well as a pattern lamp, you get a much greater certainty with regard to the quality of light displayed by ships.

The CHAIRMAN: Perhaps Mr. Gray will be kind enough to favor us with some remarks?

Mr. GRAY, Board of Trade: I have listened to the paper of Captain Colomb with very great attention and with much pleasure, and I may say at once that, from his remarks he has evidently paid great attention to the subject; but I think he is a little hard upon the Admiralty Courts in their decisions. They have the facts of the case before them; they have competent assessors to advise them; and I think that the calm, deliberate judgments at which they arrive after maturely considering the facts of the case, and after hearing the evidence, are very likely to be right; and if their decision is that a casualty did happen through a bad look-out, we may safely conclude that such was the case. As regards the Board of Trade wreck returns, I think they are quite open to the question that Captain Colomb would raise. They are not, and never can be, accurate and indisputable classifications of causes of all wrecks, but are intended to be merely, as far as the evidence goes, approximate Tables of Causes. Captain Colomb asked how we knew a collision was caused by a bad look-out? how we knew it was caused by neglect of the rule of the road? how we knew it was caused by improper lights? I will tell you. Whenever a collision happens on the coast, whether it goes into the Admiralty Court or not, the case is investigated by the officer of the Coast Guard on the spot; by an officer capable of forming an opinion upon the points likely to come under his consideration, and capable of making a report when he has formed an opinion. I will give you an instance of what may be put down as neglect of the rule of the road, and what as a bad look-out. I can tell you of cases where several ships have been anchored together in a much frequented roadstead, where not a soul has been on deck, and those below have only known that they were in collision when they have been bumped out of their berths, or have found themselves in the water. That, I take it, is an exaggerated case of bad look-out. There are many cases equally palpable. But there are many cases in which ships are under way in which great difficulty arises; and if you look at the returns, you will find that the headings are not put in a peremptory or exclusive manner. There is one remark that Captain Colomb has made from which I most strongly differ, in which he says that the Board of Trade ought to find pattern lamps and pattern candles. Now, the Board of Trade are not lamp-makers, nor are they candle-makers, and I think that the officers of the Board of Trade would strongly object to their having anything to do with selecting or appointing people to select pattern lamps or pattern candles, supposing they could do it. But can they do it? In the first place, when you select the lamp and say, "that shall be the lamp that shall be used," at once you put a bar to all improvement. Supposing that, in what we considered our enlightened state, in 1862, when the naval officers of the Board of Trade and the Admiralty, in connection with the naval officers of the Emperor of the French, made the present regulations for preventing collisions at sea—supposing that at that time we had said that a lamp of a certain pattern shall be the lamp adopted in all cases—had we fixed on a pattern then, we should not be able to use some of these lamps now shown to us by Captain Colomb, which are very much better, because the pattern lamp which had been adopted would have prevented their being used. Again, suppose two steamships, one carrying a pattern light adopted by the Board of Trade, the other carrying the ordinary or perhaps not pattern lights, but lights equally as good as the other; supposing those two ships came into collision, then, according to Captain Colomb's rule, as I understand it, the one that had not the pattern lights would be the one in fault. As the lights themselves really form a very small portion of the requirements for preventing collisions, that would be hard, and it would be wrong. Supposing the lights that were made according to pattern were not properly trimmed, supposing the glasses were cracked, or were smoked; and supposing, on the other hand, the glasses of the common old lights were good, and the lights themselves in order, then it would be very wrong to attempt to throw the blame on the vessel which had not the pattern lights, when her lights were better than the others. It would be, in fact, going back to that system of "meddling and muddling," which the government are trying to undo now as much as some years ago they were trying to retain. As regards the lamps of the "Samphire" and the "Fanny Buck," Captain Colomb asked if those lamps were produced in court. They were produced in court; they were placed before the surveyor of the Board of Trade; he was asked his opinion on them, and he said, in effect, that he would not pass them for any vessel in the United Kingdom. The green lamp has been stated to have been made of a dirty bottle-green that could not be seen at the distance of two miles and a half.

Rear-Admiral Sir F. NICOLSON: Was that in the Admiralty Court or in the first investigation?

Mr. GRAY: Here at Westminster. I have no more to say, except to urge upon you all by no means to advocate Government interference in matters of detail.

Commander DAWSON, R. N.: I think it is a subject of regret that we have so small a meeting to-night. Perhaps it may be accounted for by the fact that the subject being a naval subject we lose one-half of the audience on these occasions; our military friends not coming forward in their usual strength. Otherwise, I think it is a subject of great importance to those connected with naval matters, and one which, perhaps, no one is better qualified to treat than Captain Colomb. He has devoted seven or eight years to the investigation of this subject, not only in the laboratory, but he has actually carried out a long series of experiments in the channel fleet; therefore he can speak with a certain amount of experience, which very few naval officers have upon that point. Therefore what he has said is well worthy of being discussed. With reference to Mr. Gray's reply as to the conduct of the Board of Trade in their management of matters connected with the Merchant Navy, I do not think the Merchant Navy, as far as the safety of the seamen is concerned, have to thank the Board of Trade for much. The Board of Trade do not look very much after matters connected with the comfort of the seamen, or with many of the things that bear upon the safety of their lives. To me it is no matter of surprise that improper lights should be carried on board our merchant ships; many of them leave our ports in a state with regard to many equally vital points that is disgraceful to this country. There was one portion of the subject which I came here to listen to to-night that I hoped to have heard a little more about, and that is with reference to our own navy. Mr. Nunn has devoted a great deal of attention to the subject of supplying the navy with good lanterns; he has gone to considerable expense, and has supplied us certainly with very good lanterns, the best we have had hitherto. But there is one suggestion Captain Colomb has made which is worthy of attention, that we really want some better lights. Notwithstanding that we have got the best heretofore out, we want something better, because in the Royal Navy the trimming of these lights is a serious consideration. They are left one night to the captain of the foretop of one watch, and the next night perhaps to the captain of the foretop of the other watch. The captain of the foretop may know all the duties of the foretop, yet have very little knowledge of a ship's lights. The consequence is that the lights are very badly trimmed and badly taken care of; and though there is what is called a lamp-trimmer in Her Majesty's ships, yet his education and knowledge seldom go further than how to clean the brass of the lamp. A light, which may be very good in the first watch, will be found towards twelve o'clock, or in the middle watch, to be getting very dim indeed. Mr. Nunn was on one occasion complained to by the captain of a ship-of-war as to the bad light given out by his lamp. Mr. Nunn asked permission to see the lamp, it was shown to him, and he found it was covered inside with grease and oil, and the wick, and arrangements inside, were in such a condition that it was impossible for the lamp to give a proper light. I really believe that that very often occurs on board Her Majesty's ships; how much more often then must it occur on board merchant ships, where there is no midshipman to go round every half hour to see that these men do their duties. I think it would be a good thing to get rid of the oil altogether and replace it with candles. Mr. Nunn has also given a great deal of attention to that point, as well as Captain Colomb, in the endeavor to discover a candle which will carry a number of wicks so as to give a good light. It has not proved an easy problem to solve, but it is one which I think is deserving of great attention, to get better lights if possible, and to use them to the best advantage when we have got them.

Mr. Harper: I understood Captain Colomb to propose that the Board of Trade should have a lamp, which should not be authoritatively issued by the Board of Trade as a lamp to be used necessarily by all persons, and the non-usage of which should, in a case of trial for collision, at once condemn the ship; but that the Board of Trade should have a model lamp made, which model lamp should be a standard lamp, a lamp of reference, so that the tradesmen who are manufacturing lamps without any knowledge at all, and the shipowners who are using them without any care whether their lamps are effective or not, should have before them a model lamp, and the public should be able to have one always to refer to—a model lamp efficiently constructed, and examined by the

Board of Trade, whose function, it seems to me, is especially to interfere in such cases, and who are not to be supposed to drop their hands in the face of such difficulties as those of lamps, because it is interfering with private enterprise. It would be, it seems to me, specially within the functions of the Board of Trade.

Mr. Gray: Under what act of Parliament?

Mr. Harper: Under general principles. The Board of Trade makes acts of Parliament for all these cases, and bases those acts upon broad general principles. The broad general principle has been announced by Mr. Gray to-night, that the "meddling" of the Board of Trade is "muddling." Now, all government is meddling; government means meddling. If Mr. Gray is prepared to say that the Board of Trade never meddles without muddling, well and good! We must not look to them for any alteration in the matter of lamps; we cannot think of applying to them to make a standard lamp. But I imagine Captain Colomb simply meant, not that the Board of Trade should issue a definite kind of lamp which was to be used necessarily by all ships, but that they should issue a standard lamp, so that persons who wished it should know whether tradesmen were supplying them with proper lamps; or, that persons who were going to send goods abroad and entrust them in a ship, if they thought the question of lamps an important one, might refer to that standard lamp, and might see whether their property was sufficiently protected in this respect.

Mr. Gray: Would you have model anchors and cables as well?

The Chairman: The question is that of ships' lights, and I must ask you to confine the discussion to that question.

Captain Leopold Heath, R. N., C. B.: It is a very important question that has been raised. The government have decreed that ships shall carry certain lights; and I think it is quite open to argument that the government should define what those lights should be.

Rear-Admiral A. P. Ryder: The question has been raised by Captain Colomb with reference to the nature of the oil consumed. Now, sperm oil is used invariably by the Admiralty for the side lights of ships at sea. I had the opportunity a few months ago, when I had charge of the Coast Guard, of instituting some experiments on the relative value of sperm and colza oil for the purpose of side lights. The experiments were all in favor at the first start of the colza oil. But, on reference to the Victualling Department, I was informed that if sperm oil was put in iron casks, as it always had been, or, if it was put into another cask in which there was a rusty nail, the sperm oil was materially injured; and that they had, therefore, lately adopted the plan of sending it to sea in casks made of some other material than iron, and they hoped that the oil would retain its character. After this I had the opportunity of instituting other experiments with the sperm oil, which was kept in the improved casks, and the result of these experiments surprised me. I think the different officers of the eleven ships that carried on the experiments during the winter were perhaps equally divided as to the relative merits of the colza and sperm oil. But the expense of the oils is as one to two; the colza is only half the expense of the sperm. There seems not to be much difference, so far as we could make out, as to the relative brightness given out by the two oils. There is one point about the rays which Captain Colomb spoke of. I do not think he alluded to the reflectors in the interior part of the lamp.

Captain Colomb: I did not mention them.

Admiral Ryder: The reflectors in Mr. Nunn's lights are always metallic, which apparently after a little time lose their power of reflection. The reflector becomes rough from being polished with sandstone, and very soon ceases to be a perfect reflector. In fact, I have seen a reflector painted; this, of course, has prevented its sending forth any rays at all. Mr. Stephenson, the great light-house designer and constructor in Scotland, is trying to get a perfect reflection from ship's lights by means of glass prisms, which could be easily cleaned with a sponge, and, therefore, require no rubbing or polishing. He has put one on the Scotch light-house yacht, and he hopes to get a very good result. He says he can construct it very economically indeed. In that case you would save all that lost angle of light, and you would throw out rays, as you do from a reflector now to a certain extent, only you would send them by total reflection by means of prisms. I believe the green and red lights are now of the same size, whereas it is notorious that the green light is not seen so soon as the red. If you wish the red and green to be seen at the same time from a ship a-head, the green light ought to be more powerful to bring it up in intensity to the red. When I was a member of the light-house commission I looked into the question of colors and I found the green stood very low indeed in the scale. It occurred to me what objection could there be to having a white light instead of a green light? At all events, the green light should be made as good as possible, and be brought up to the standard of the red light, which can only be done by having the lamp for the green light half as large again as the lamp for the red light.

Captain Colomb: I quite agree with most that Admiral Ryder has said; but I do not think it would be possible by any system of reflectors to use them in the same way that lenses are—that is to say, to catch the back rays and throw them out again. You would increase the power of the light as far as they are reflected, but unless you did away with the lens altogether, you would still have the effect I have shown there; you would have a brighter light by the combination of the lens and the reflector which we have here. By the combination of the lens and reflector we get a brighter light throughout the whole disc of light; but the objection to a fixed light remains just as strong as ever—that is to say, the lens bends the rays, and the reflector must also bend them to give you any extraordinary power of light; and the rays being bent out of one place and into another, the lamp must be allowed to move to keep the rays in the direction in which you want them to travel. As to colza oil, I believe it is most commonly used in merchant ships. Mr. Nunn has found exactly the same result that Admiral Ryder did; that it is very much better, and requires less trimming, and is more suitable altogether for ship's lights than sperm oil. I should like to ask one question of Mr. Gray. He has mentioned a certain class of cases which he says is put under the column of "neglect or misapplication of steering rules." If the cases he has mentioned come under "misapplication of steering rules," what class of cases comes under "general neglect and want of caution?"

Mr. GRAY: If you will only be good enough to call at my office to-morrow I will show you with great pleasure.

Captain COLOMB: I only wished to ask the question.

The CHAIRMAN: We are very much obliged to Captain Colomb for the paper which he has been good enough to read to us, and also to the gentlemen who have made their remarks upon it. I conceive that we gain very much by these discussions. One gentleman has remarked about the smallness of our audience. I attribute it not only to the fact that it is a naval question, and, therefore, more exclusively belonging to the naval profession; but also to another fact, namely, that a very large proportion of our members trust to reading the reports of our meetings, and if there were only a dozen people here, there are a great many who read the reports and profit by them as much as if they were present. At any rate, we must not restrict in our imaginations the usefulness of these meetings by the number of persons who happen to be present. With respect to the question between Captain Colomb and Mr. Gray, of the Board of Trade, there is a good deal to be said on both sides, and where there is a good deal of truth on each side, I think we may gain something from each. In the first place it would be a very bad thing if any fixed standard for these lights were made, because it is always the tendency of authority, whatever it may be, to regulate everything for a number of years, and thereby to shut out improvements which might be called innovations. That would never do. At the same time, on the other hand, we must remember that those who are entrusted by the community with the power of making these regulations, might very reasonably be called upon by public opinion to go one step further and see that those regulations are exactly complied with. Certainly, looking at some of these lights before us, these specimens of imitations, I think we may fairly say that the regulations made by the Board of Trade by the authority of the country, are not complied with. There are certain rules laid down; surely somebody should be responsible for those rules being carried into effect. I think in all cases of official inquiry, whether before a court of law or whether before the constituted authorities who have to inquire into them, we might have the question looked into as to whether these wholesome regulations made by the Board of Trade are virtually carried out, not in words, but in fact, so that the opposing ships might either be considered innocent or guilty according to the law laid down by the authorities. Another question is the question of candles. Decidedly, the better light is that given by an oil lamp, if it is well trimmed and attended to, and has plenty of air. I agree in the advisability of having a light which will be continuous, which will be the same light throughout, and which will not require so much trimming and so much watchfulness on the part of those who, unfortunately, are often deficient in the common sense necessary to keep those lights in order. Therefore, I think candles, if we could get them good, would answer better. But there is a good deal also in the question of keeping candles on board ship, whether they would deteriorate by long keeping or not? I, myself, know that such things do sometimes deteriorate by keeping, and do not give a good light, and that, whereas, at first they would be good for ships' lights, their illuminating powers would so far fall off that you could not trust them at all. Therefore, we must not too quickly adopt candles without experiments. Another point was that of lamps delivering their rays always horizontally. The only way to do that is to gimbal the whole lamp with its glass covering; and we must take care that it is done from the inside, so that the stroke of the sea, when it comes up the ship's side, shall not come across the gimbal at all. If we can manage that we shall do well. I do not know that there is any other point that I need mention. With respect to figure 2, it speaks for itself. But I think we might fairly ask the constituted authorities to condemn any ship of any size—man-of-war or merchant ship—that did not carry out the regulations regarding the proper size and the proper periphery of the lens. We might ask for that. Be the ship large or small, it is only having a larger or smaller lens. But the principle is the same, and the principle should be carried out. I have now only to thank the gentlemen who have spoken for their opinions, and for the information they have given us, and especially to thank Captain Colomb for the paper he has read.

A FEW REMARKS ON THE "RULE OF THE ROAD," AND SUGGESTIONS FOR ITS AMENDMENT.

By Captain Charles Curme, R.N.

Having been kindly granted permission, I wish to make a few remarks on what we sailors call the "Rule of the Road," and to offer one or two suggestions for its amendment in particulars which I think urgently demand it. I must, in deference to you and justice to myself, observe that I do not for a moment suppose that I am going to say anything new on the subject, for I am fully aware that it has occupied the earnest attention of many men more fitted and able than myself to deal with it; but it is a branch of our profession that I have always been attentive to, and have lately been called upon to go closely into. I think the discussions of the last two meetings have plainly shown that we are all agreed as to the great value of any system of lights that would enable a ship at night to ascertain not only the *position* of another ship she may be meeting, but the course that ship is steering, her own being indicated in the same manner; but I am sure you will agree with me that the most accurate knowledge of their mutual courses will be of little value to the officers in charge of the navigation of those ships, unless they are furnished with a clear, distinct, and generally applicable rule of the road.

Undoubtedly the principle that should govern the movements of two ships meeting, should be the keeping or getting out of each other's way by the shortest and most expeditious route—in the case of an impending collision every *second* of time *saved* being of the utmost importance. Now in the case of ships meeting each other "end on"—*i. e.*, all masts in one, or showing each other *both* side lights, or "crossing" each other under such conditions as to make it indifferent in point of time which side they should pass each other on, or which ship should give way to the other—it is manifest that an arbitrary and conventional rule is necessary, and this is furnished by the regulations, which provide that in the one case *the ship which has the other on her own starboard side shall give way to the other; and in the other, that the helms of both shall be put to port, so that each ship may pass on the port side of the other.* So far so good. But when we come to cases under other conditions, I venture to assert, that on investigation it will be found that in many instances collisions have been caused by the officer in charge of one of the meeting ships, without the least reference to the particular circumstances of the case, putting his helm to port, and comforting himself with the reflection that, as he was obeying the "written law," so he was placing himself beyond the reach of blame, happen what might; for be it observed that Article 14, while directing which ship is to give way, makes no mention of how it is to be done, and I know that the opinion has been, and still is, widely prevalent, that it *must* be done by *porting* the helm; it can easily be shown that in some cases such a course would be a dangerous, and in many others a long and circuitous one. The officer of the other ship takes what perhaps I may be allowed to call the "common sense" view of the case, puts his helm to *starboard*, or, it may be, holds on, and the consequences are such as are unfortunately too familiar to us all. Cases can be given in which ships have sighted each other at a distance of several miles, but by perseverance in a course similar to the foregoing, have succeeded in running foul of each other.

As it stands first I will, however, return to the article governing the case of ships "meeting," as it is called (Article 13,) and in it I object to the use of the expression "*nearly* end on," as vague and indefinite, and, as may be easily proved, productive of much dangerous doubt and misconception. I propose that Article 13 shall run thus: "If two ships under steam are meeting *end on*—*i. e.*, so as to show each other all masts in one or *both* side lights—the helms of both shall be put to *port*, so that each may pass on the port side of the other." It will be observed that this applies only to the case of ships meeting each other in exactly opposite courses.

Again, in Article 14, which provides for the case of ships under steam "crossing," it is laid down that "the ship which has the other on her own starboard side shall give way to the other," but does not direct how it is to be done. Now no doubt it will be said at once, "any *sailor* will see at a glance how it is to be done, and there is not the slightest occasion for any written rule on the point;" but I assert, and can bring ample proof in support, that it is often attempted in the wrong way, and not only that, but on reading the reports of cases of collisions that have been tried, it will be found that a ship *putting her helm to starboard*, has in some cases been held to be in the *right*, and in others, under apparently precisely similar conditions, has been held to be *wrong*, for not *porting* her helm "according to the statute," and I am convinced that, clear as the cases in which the *starboard* helm is *necessary* and *proper*, may appear to you, or to any men thoroughly up to their work, there are a very large number of men for whom a clear imperative direction is required, and I venture to suggest that Article 14 should stand as follows: "If two ships under steam are approaching each other in any other direction, so as to involve risk of collision, the ship which has the other on her own starboard hand shall give way to the other, which she shall do by putting her helm to *port*, if she has not reached the other's line of keel and sees her *red* side light only, but by putting her helm to starboard if she is *on* the other ship's line of keel and sees *both* the other ship's side lights, or has *crossed* her line of keel and sees her *green* side light only." For the convenience and ready reference of captains and officers in charge of the navigation of ships, I propose that a table such as that given hereafter, showing all the different conditions under which ships may meet, with risk of collision, should be placed near the bridge and wheel, and to facilitate the use of it, the lookout men should be instructed to make their reports in one regular form, thus: "Green light right ahead; red and green light on starboard bow; red light on port bow;" and so on, the officer in charge, at a glance at the table, sees at once what is to be done.

I wish to say a few words more about the expression "*nearly* end on." I have consulted with several of the most experienced officers I know, and all are agreed that it is dangerously indefinite, and indeed can only be stated arbitrarily to mean, a direction not differing more than a point or two from an exactly opposite course. Under the present system of lighting it is evident that we are utterly unable to ascertain this at night; a system such as the excellent one proposed by Captain Heathcote, would enable us to do so with a great degree of accuracy, but as things are, and as the regulations are at present worded, it is evident that an officer is left in doubt as to whether he is to obey the rule for meeting or crossing; I venture to say that the wording I have suggested for the Articles 13 and 14 does away with the uncertainty; the relative position of the masts in the day time, and the seeing particular side lights at night, will give unmistakable indications as to which rule should be followed. I will not take up more of your time by quoting any particular cases, but several may be found which clearly illustrate what I have said as to the misconception and consequent wrongdoing which appear to result from the present regulations, of which I should say that they clearly recognize and admit the necessity of legislation, but do not carry it sufficiently far. It is for your consideration whether what I suggest goes far enough without being impracticably and mischievously minute. Since I first took up this subject I have obtained a pamphlet published in 1857—but who the author is I do not know—which contains a letter from the Admiralty, dated December 11, 1854, addressed to Messrs. G. McTear & Co., of the Steam Packet Office at Belfast, and as it bears directly on our present subject, and is moreover strongly confirmatory of my own views, I will quote it, observing that in paragraph 2 of Messrs. McTear's statement, a small alteration is necessary in detail but not in principle, in consequence of the regulation pointing out which ship of two crossing is to give way, being of a date long subsequent to that correspondence.

Correspondence between Messrs. McTear, of Belfast, and the Admiralty on the subject of the Instructions relating to Steamers' Lights.

Messrs. McTear say:

"Supposing two steamers from nearly opposite points of the compass to be approaching each other *with the masthead and green lights* ONLY of each visible from the other, we wish to know what should be done should each continue her course, or rather put the helm a little to starboard than otherwise, or should each port and cross the bows of the other?

"On the other hand, supposing *the masthead and red lights* ONLY of each visible from the other, should each continue her course; or, if anything, *port* a little, not starboard?

"There is an opinion prevalent amongst captains that, when two steamers are meeting one another, the helms of both should be PORTED, *without reference to what lights are visible from each;* but, as there are some who think otherwise, we feel anxious to know which is correct, and shall be glad to have your opinion on the subject.

"1. The interpretation of the latter is, that in the first situation, as shown by your diagrams, where A sees only the masthead and red lights of B, but B sees all the lights of A, each vessel should port her helm; or, B continuing her course, A should certainly *port*, and pass astern of B.

*"2. That, in the second situation, where A sees B's masthead and green lights only, but B sees A's three lights, each vessel should starboard her helm; or, B continuing her course, A should starboard, and pass astern of B.

"3. That, in the third situation, where A and B see but each other's masthead and red lights, they should continue their respective courses; or, if any change be made in the helm, it should be in the PORT direction.

"4. That, in the fourth situation, where A and B see but each other's masthead and green lights, they should continue their respective courses; or, if any change be made in the helm, it should be in the *starboard* direction; and lastly,

"5. That, in the fifth situation, where A and B see all the lights of each, the helm should be *ported* in both.

"We shall feel obliged by your informing us, at your earliest convenience, if the interpretation herein given be correct; or, if not, what is the proper explanation of the diagrams."

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*As, according to the latest regulations, "the ship having the other on her own starboard side is to give way to the other," this should be substituted—"or A continuing her course, B should starboard and pass ahead of A." It will be observed that this does not affect the principle of the use of the *starboard* helm in certain cases.—C.C.

The following is the reply of the Admiralty:

"ADMIRALTY, *Dec.* 11, 1854.

"GENTLEMEN: Referring to your letter of the 17th ult., upon the subject of the interpretation of the Circular No. 107, relative to lights to prevent collision, I am commanded by my Lords Commissioners of the Admiralty to acquaint you that the opinion which you allege obtains among masters of steam vessels, that when two steamers meet one another the helm of *both* is to be ported, without reference to which lights are visible from either vessel, is erroneous, and founded upon a misconception; indeed, their Lordships are of opinion that such a course would not only be a violation of the established regulations, but might lead to very disastrous consequences.

"In conclusion, I am commanded to acquaint you that the interpretation given in your letter of the several diagrams illustrative of the established regulations which is opposed to the misconception is perfectly correct.

"I am, gentlemen,
"Your obedient servant,
(Signed) "A. MILNE.

"Messrs. G. McTear & Co.,
"Steam Packet Office, Belfast."

Thus it appears that the interpretations in the paragraphs which are marked 1 to 5 contain a correct view of the intended regulations.

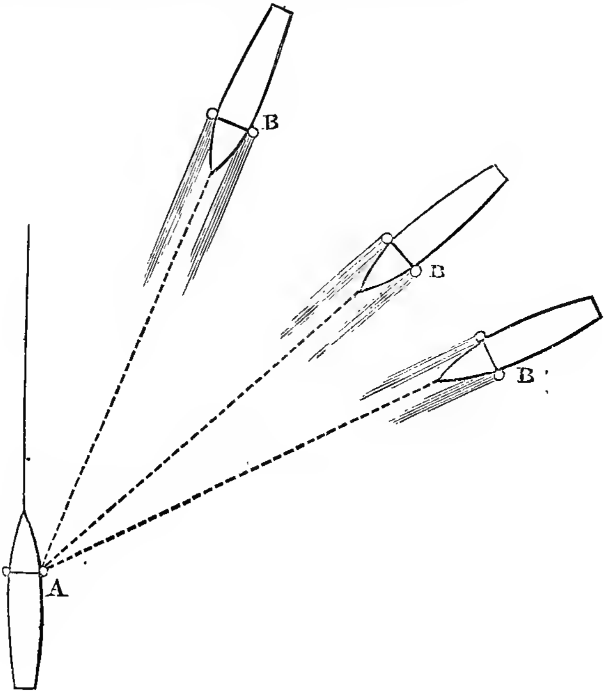
The diagrams they refer to are to be found, I believe, in any of the copies of the "Regulations for Preventing Collisions at Sea," issued by the Board of Trade. I particularly wish to point out to you that, although this correspondence so clearly establishes the fact of the existence of the misconception on the subject of the obligatory use of the porthelm on all occasions, and their Lordships so strongly express their disapproval of *that* interpretation, and their concurrence with the one set forth by Messrs. McTear & Co., yet, so far as I am aware, that approval has never been made generally known, and I am asking for nothing more now than that the principle therein recognized, shall be put in a clear, imperative form, so that in case of collision there may at all events be less than the present difficulty in deciding who shall bear the burden and penalty of wrongdoing, and that the hesitating and, perhaps, inexperienced, may be relieved from much anxious and painful indecision.

In conclusion and explanation of the table, I should like to observe that although it is intended to include all the cases in which collision is possible, they all may be reduced under the two heads of ships *meeting each other "end on,"* when each *ports* her helm; and *meeting each other* *in any other direction, so that there is risk of collision*, for which case we need only establish the mode of giving way to be followed by the ship having the other on *her own starboard* side, the other ship will of course have her opponent, if I may so call her, either *on her port side*, in which case she should keep her course, or *ahead*, when she should put her helm to *port*, if she sees the *red* side light only, but to *starboard* if she sees the *green* side light only.

The following diagrams illustrate cases in which it is proposed that it shall be *declared* obligatory to put the helm to starboard.

CASE I.

In any one of the three positions of B shown in the diagram, A sees both B's side lights on his *starboard* bow or side. B sees A's *green* side light only, *right ahead*. A must give way by putting his helm to *starboard*. B would probably go clear if he kept his course, but as a matter of precaution, *he should put his helm to starboard also.*



CASE II.

In this case A and B see each other's *green* side lights only, and it is evident that if they *both* keep their courses they would go clear of each other, but as, in supposed compliance with the statute, it is too often the practice for *one* or *both* to *port* their helms, or still worse for one to *starboard* and the other to *port*, it is suggested that it be made obligatory that, one *green* side light only being seen, the helms of *both* ships shall be put to *starboard.*

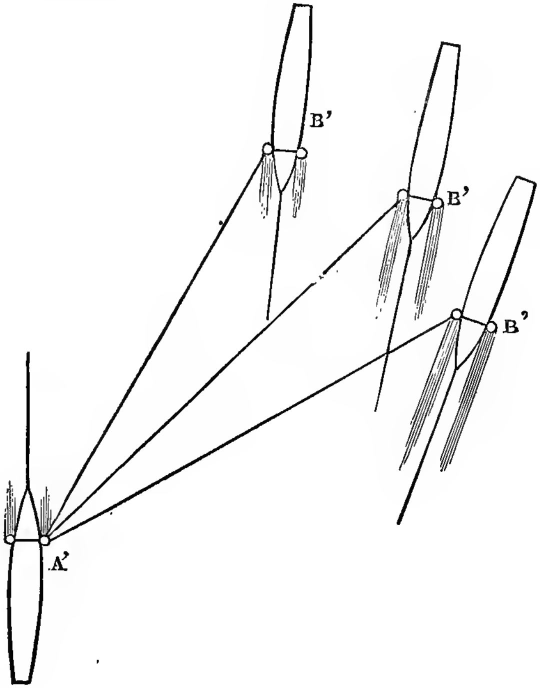


Table for the use of captain and officers in charge of watches, showing the course to be pursued on sighting a steamer's lights.

BEARING AND DESCRIPTION OF LIGHTS.	EVOLUTIONS TO BE PERFORMED.
Red and green lights *right ahead.*	*Port* the helm.
Red light *right ahead.*	*Port* the helm.
Green light *right ahead.*	*Starboard* the helm.
Red and green light on *starboard bow.*	*Starboard* the helm.
Red light on *starboard bow.*	*Port* the helm.
Green light on *starboard bow.*	*Starboard* the helm.

[In the last case ships ought not to go near each other without touching the helm, but it is safer to put it to starboard.]

Red and green light on *port bow.*	*Keep your course.
Red light on *port bow.*	
Green light on *port bow.*	

***N. B.—Mind your *port helm,* and keep or get the lights *broad* on your *port* bow.—C. C.**

In conclusion, my proposals are to do away with the expression "nearly end on" in Article 13, introducing a definition of "end on;" to supplement Article 14 by directions how the giving way is to be performed (in other words, to declare when starboard helm *may* and *ought* to be used;) and the giving to officers in charge of ships, a table, which, with the proper instruction to the look-out men, will, I think, materially assist them in doing the "right thing at the right time." As I understood the subject for to-night was "the safe navigation of steamships by night," I have not touched upon the articles applying to *sailing* ships, and I am not prepared to say that it is requisite, but I anticipate little difficulty will be found in framing rules for their government upon the same principles, should it be thought necessary. I trust that, even if my propositions are disapproved of, either as unnecessary or bad in form, that at least what I have said will have the effect, by producing discussion, of calling forth from the proper authorities some such clear expression of opinion as that I have referred to as having been given in the Admiralty letter of December 11, 1854.

Captain HEATH, R. N., C. B.: I take it that no two ships, seeing only green lights, would ever put their helms aport.

Captain CURME: But let us come to the case of two ships meeting "end on, or nearly end on," as they call it. We will suppose B is slightly inclined—at night we cannot tell how much. A in this case sees both the side lights. Are they meeting, or are they nearly end on?

Mr. GRAY: They would not involve risk of collision by proceeding straight.

Mr. HARPER: What is the legal definition, under Article XIII, of coming end on?

Captain CURME: There is no definition.

Mr. HARPER: What is "coming end on?"

Captain CURME: When both side lights are seen; when both ships see each other's side lights.

Mr. HARPER: Then, when coming nearly end on, they can only see one side light?

Captain CURME: One side light, certainly. If they see both, they are clearly both end on. This ship here first of all shows both her lights; she turns in this way; and the moment she passes from that position, she shows one light only. But you cannot tell how far she has gone round, and you may be treating it as a case of nearly end on, whereas, instead of that, she is crossing.

Captain HEATH: Might I ask you to draw the ship A so that the red light is seen by B—the case of a ship that sees the other on her port bow. The point I want to put is, that if a ship lay in the direction of

A, your rule would say that as she sights B on her starboard side, she must give way. Now, the other ship ought, by the same rule, to put her helm a-port; but I do not think your rule says so.

Captain CURME: It would only be adding to the regulations. It is a case that does not very often occur. But if this ship is ever so little round, showing her green light, she would have to give way; but in this case A sees both B's lights. I put a note in, that a ship having another on her port side, is entitled to hold on; and if she does anything, she is entitled to put her helm a-port, so as to ensure her red light being seen.

Rear-Admiral Sir F. NICHOLSON, C. B.: If a ship is in the position of A, you say, she must put her helm a-starboard. Now, supposing B puts his helm a-port.

Captain CURME: B has no business to do so, because he sees ahead of him a green light; and by my rule he puts his helm a-starboard.

Sir F. NICHOLSON: It is an understood thing by your rule that he puts his helm a-starboard?

Captain CURME: That is what is clear to me, if these rules are carried out, that seeing a red light is the signal to put the helm a-port, and seeing a green light is a signal to put the helm a-starboard. With any system like that proposed by Captain Colomb the light does two things; it distinctly shows what you are doing yourself, and shows the other ship what she ought to do; and in carrying out that system you will find that no mistake can possibly happen.

Commander HEATHCOTE: Will Captain Curme read the rule again?

Captain CURME: "A ship seeing ahead of her a green side light, is to put her helm a-starboard." That is, B sees ahead of her a green side light, and therefore has to put her helm a-starboard.

Captain HEATH: Why not add to that, "a ship seeing ahead of her a red side light shall put her helm a-port?"

Captain CURME: I have arranged it in this way: a ship seeing ahead both side lights, what is she to do? She carries out the arbitrary rule that says "put her helm a-port." The next case is, a ship seeing ahead of her a red side light—that is, a ship turning sufficient to show a red side light—she shall port her helm. Then, if a ship sees ahead of her a green side light, she is to starboard her helm. Then, here is the other case, if a ship sees on her starboard bow two side lights, then she has to put her helm a-starboard. Of course, the correlative case to that is, a ship seeing ahead of her another ship's green side light, they both put their helms a-starboard. The third case is, a ship on her own starboard bow sees another ship's green side light, then there is no question that they are both to put their helms a-starboard. Under the present interpretation of the rule they would both put their helms a-port, and would go miles out of their way by doing so. But by the proposed rule, a ship seeing on her starboard bow a green side light, would put her helm a-starboard. Captain Curme then read the letter written from Belfast to the Admiralty, and given in his paper.

Mr. **Stirling Lacon**: What is the answer?

Captain **Curme** read the answer given in his paper.

Mr. **Lacon**: That was written in May, 1854, and still there has been no alteration of the rule?

Captain **Curme**: The only alteration made is, that it is now laid down that the ship which has the other on her starboard side shall give way. But this answer has never been published. To several to whom I have referred the case, I have put the question in this way: a ship showing her green light to another and seeing the other's green light, what would she do? They have said, why no man in his senses would put his helm to port. But there are numerous cases where it is done, because many seamen have got that one idea in their heads, that whatever lights are made out they must port their helm directly.

The **Chairman**: That is not according to the rules?

Captain **Curme**: It is according to the rules.

Admiral **Ryder**: It is not according to that Admiralty letter which has never been made public.

Mr. **Lacon**: It is according to the rules.

Admiral **Ryder**: The Admiralty Regulations say not a word about starboarding the helm, not a word. The new regulations, issued a few years since, prescribe most imperatively "*porting*" the helm under certain circumstances in the case of steamers, viz., when two steamers are "*meeting end on, or nearly end on*;" but they prescribe as imperatively that when two steamers are "crossing with risk of collision," *the steamer which "has the other steamer on her starboard side is to give way*," and vice versa; but "*giving way*" may, of course, be effected by *porting* or by *starboarding*, and the adoption of one of these courses may be very dangerous, and of the other perfectly safe; the mode of "giving way" has, therefore, been left hitherto entirely to the judgment of the captain of the ship that is enjoined to give way by the above regulations.

Mr. **Gray**: Suppose the two ships approaching nearly end on, and each showing the other the green light, would those ships run the risk of collision if they were to continue to hold their course?

Captain **Curme**: Certainly not.

Mr. **Gray**: Then the rule does not apply?

Captain **Curme**: But putting the helms a-starboard turns them more away from each other.

Mr. **Gray**: But if each sees the other's green light, and if the course on which they are proceeding will carry them clear of each other, then the rule does not apply, because the rule says "if they are approaching nearly end on, so as to incur risk of collision."

Captain **Curme**: Who is to form a judgment?

Mr. **Gray**: The people on board, of course.

Captain **Curme**: But we must make rules for stupid people—for wrongheaded people.

A **Member**: Your rule is, if you see a green light you starboard your helm; if you see a red light you port your helm?

Captain **Curme**: Yes.

Mr. **Lacon**: Surely such a rule as proposed by Captain Curme would be understood by the most ignorant man. Legislation should be, not for the intelligent captain only, but for the half-instructed man, who has honestly puzzled over the Merchant Shipping Act, with its upwards of 500 clauses, and the Admiralty regulations and diagrams. He honestly tries to understand them, but he cannot, and surely such a rule as that proposed by Captain Curme would meet the dullest comprehension.

Captain **Curme**: Mr. Harper will bear me out that there are numberless cases where ships have run into each other because they thought it was an *inflexible rule* that when they sight each other they must port their helms.

Commander **Heathcote**: There is one case in which I think the simple rule might act not beneficially, that is, supposing one vessel sees a red light on her starboard bow, then, according to the rule, the vessel seeing the red light is to port her helm, and the vessel seeing the green light is to starboard her helm. The rule as simply stated just now was, that a red light being seen by a vessel she should port her helm; and a green light being seen by a vessel she should starboard her helm. That is very simple.

Captain **Curme**: That was an hasty attempt of mine at summarising it; but I did not intend to alter the rule that one ship making out another on her starboard side is to give way, and that the other is to hold on.

Commander **Heathcote**: Then that is not the rule.

Captain **Curme**: I confess that is the case, but I ought to have put it in this way: When a ship, by making out another on her own starboard side, is bound by the present law to give way, she shall give way, and when a ship making out another on her port side is entitled to hold on by the law as it is now, she shall hold on; so that my alteration would merely be, that ships making out another in such a direction, that it is incumbent upon them to give way, shall give way, by putting their helms to port if they see the red side light only; but by putting their helms to starboard if they see both the side lights, or the green side light only.

Captain **Baker**: You mentioned the case of the "Pacha" and "Erin," in the Straits of Malacca. That was a peculiar case. They made each other out about five miles distant; it was a hazy night, fine weather. They made each other out about half a point on their bow, not more than that, or nearly right ahead. They were steering S.E. by E., and N.W. by W. The "Pacha" was coming N.W. by W., and the captain being, I presume, rather a timid man, put his helm a little a-starboard. The other commander, whom I know very well, had it reported to him that a steamer's light was ahead. He came on deck and gave the man at the wheel the order, "Just keep that steamer clear on your port bow." "Aye! Aye!" In the meantime time the "Pacha" was edging off with a starboard helm; the captain of the "Erin" looking up could not see the light, and he said, "Do keep her clear on the port bow." He had not the slightest idea that the other steamer would starboard her helm, the rule being to port—there being a rule now that two ships, meeting nearly end on, should port as they approach. The captain did not think for a moment that the other would be starboarding, therefore he did not look at his compass; and the man at the wheel did not tell him the ship had gone off four or five points, until it became actually a case of contact. As they approached each other one put his helm hard a-starboard, and the other hard a-port, and they ran into each other. If there are too many rules, the system will become too complicated, it must be either "port" or "starboard." If you have too many rules men will get confused. That is my impression from an experience as commander of a steamer for many years. The rule to port appears to me to be a very good one, no doubt, meeting either end on, or nearly end on. I merely mention this, having been perfectly aware of the circumstances of these two ships. It was a peculiar case; I suppose there is scarcely another on record like it. One man was timid; he put his helm a-starboard, and kept edging off a little; the other put his helm a-port, according to the Admiralty regulations.

Captain **Curme**: There are already two rules, the 13th and 14th, and I only propose to omit indefinite expressions in Article 13, and supplement Article 14 by directions how the giving away is to be performed.

Mr. **Lacon**: Will you allow me to say, from what we have heard to-night, and also from what we heard in the two nights' discussion on Captain Heathcote's paper, that it more and more convinces me that the great loss of life at sea, and the great destruction of property, arise from preventible causes. I hope that men like Captains Heathcote, Curme, and Colomb, will go on with the agitation of these subjects; and by and bye we shall have a Reform Bill which I believe will be of great advantage to the country and to the public generally. But I believe that the mischief of the existing state of things lies in the want of responsibility. Just now you heard Mr. Gray wishing to repudiate additional responsibility being thrown on the shoulders of the Board of Trade. Mr. Gray says it is ridiculous to make the Board of Trade responsible. We had an instance of a ship that had a hole in her boiler. It was impossible the Board of Trade could know it, they were purposely kept in ignorance of it; yet an Irish jury brought in a verdict of manslaughter against the Board of Trade. It is not at all surprising, therefore, that the Board of Trade should wish to throw the responsibility off their shoulders, and throw it on the shoulders of the proper persons, the owner, and (through the owner) the captain, his mates, and the engineers.

The Chairman: We may also say of this paper that we are very much obliged to Captain Curme, and also to the gentlemen who have favored us with their remarks. The more these subjects are agitated, the nearer we shall get to the truth. I think we have pretty nearly come to a conclusion that something is wanting, though we may disagree as to what the exact wording should be. It will, I think, take a little trouble and attention to make out the exact wording which will be required for meeting the various points. I can see that something is wanting; yet, we must always be very careful in making regulations that we do not make that which we shall have to unmake shortly afterwards. Therefore I should like this subject to be well thought over before any alterations are made. We may see an evil, and may make an alteration which we may find afterwards not to be the exact thing. At the same time we are indebted to those gentlemen who have pointed out to us that some alteration is requisite, and also the direction in which that alteration should be made.

Monday Evening, July 16, 1866.

Rear-Admiral A. P. RYDER in the Chair.

ON "THE LOSS OF LIFE AT SEA."

By William Stirling Lacon, Esq.

This being the last evening of the season I will now, that I have received the permission of the Chairman and the meeting, explain to you what may be considered the result of our several deliberations upon the "Loss of Life at Sea," and the various subjects incidental to it.

I shall represent the matter to the Council that the papers and discussions upon them may be brought together in one pamphlet, that the public and authorities may judge of the value of this Institution, and award the merit where merit is due.

It was after the discussion upon Captain Curme's paper on Monday evening last that I went home and pondered deeply upon what I had heard, and it was that night, from 12 to 3 a. m., that I lay awake during the very time that the "Amazon" and "Osprey" were sinking, and the next morning I carried to the Admiralty a diagram of which that below is a copy.

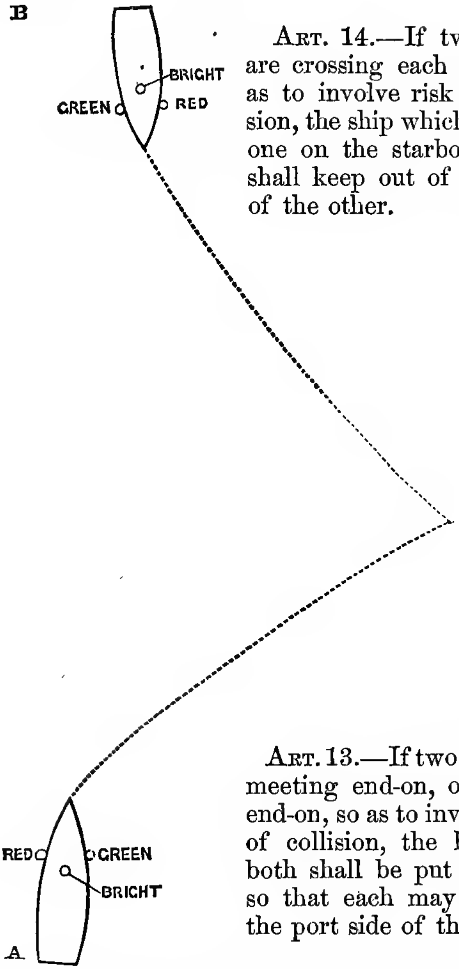
I said then (twenty-four hours before we received intelligence of the collision) that vessels meeting in that position would, in all probability, come to grief. At the same time I deposited what I considered to be a remedy for the future, which I will presently explain to you.

The present state of the law is not sufficienly explicit, and can be best described by "the Rule of the Road," which I noticed this week in the "Notes and Queries:"

"The Rule of the Road is a paradox quite,
When sailing your vessel along;
If you go to the left, you'll be sure to go right,
If you go to the right, you'll go wrong."

In the inquiry that is about to take place I have the greatest confidence that the honor of all parties will be safe in the hands of those in whose custody it will be placed by law, and that one man may not be acquitted or fond guilty at the expense of another, but that if the law is at fault—*the law will be found guilty.*

Diagram deposited at the Admiralty.



Art. 14.—If two ships are crossing each other so as to involve risk of collision, the ship which has the one on the starboard side shall keep out of the way of the other.

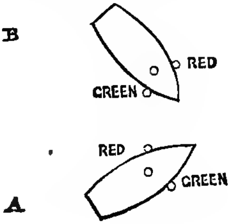
In a letter to Belfast, 1854, their lordships strongly disapprove of the use of the *port* helm under such circumstances.

Art. 13.—If two ships are meeting end-on, or nearly end-on, so as to involve risk of collision, the helms of both shall be put *to port*, so that each may pass on the port side of the other.

Where A sees B's masthead and green light only, but B sees A's three lights, each vessel should starboard her helm; or, B continuing her course, A should starboard and pass astern of B.

Sanctioned by Admiralty Letter, December 11, 1854.

Second position.



By both vessels putting their helms to *port* they would pass each other to port, if they are at sufficient distance to clear each other. But they may become, accidentally, so near each other, that doing so—that is, by porting their helms—a collision becomes inevitable. Thus, then, great caution is required by two vessels crossing each others' courses when in this position, and it is clear they must be guided by circumstances. We believe it is erased from the rules laid down by the Admiralty.*

I differ, in toto, from what has been laid down within the last two or three days by a great authority, that a man-of-war is entitled to follow her own notions and to pirouette about the seas, misleading everybody. Make your laws correct, and the captain of the man-of-war will be as much bound by them as the commonest merchant skipper.

The next thing I would explain to you is, what we have learnt from Captain Colomb's paper, that the law, with respect to ships' lanterns, is very generally departed from, and it appears to me partly to arise from the fact that what you have required from shipowners is useless, and throws an unnecessary expense upon their shoulders. You require from them what common sense tells you is useless, but make your laws in unison with common sense, and then punish the slightest infringement of them.

Captain Colomb has told you that the lenses are manufactured in cylinders or circles, and that to cut one for the bright light into twenty points involves a waste of the other twelve; whereas, if sixteen points of an arc should be considered sufficient, one cylinder or circle might be cut into two lenses.

In the same way, for the side or colored lights, the circle or cylinder should now be cut into two lights only, involving a waste of nearly one third of the glass, whereas, if nearly eight points of an arc should be considered sufficient, one cylinder or circle might be cut into three or perhaps four lenses. This latter may be drawing the thing rather too fine, but it is worthy of consideration. In the suggested alteration of the law, reference is had to this matter because your laws should be practicable, and no departure from them should for one moment be permitted.

Proposed Rules for Steamers meeting at Night.

Sea-going steamers when under weigh should carry—

At the *foremast head* a bright white light so fixed as to show an uniform and unbroken light over an arc of the horizon of *nearly sixteen*

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* "Rules of the Road, or Laws of Passing Vessels." Sold by J. D. Potter, 31, Poultry, Agent for the sale of Admiralty Charts and other publications.—W. S. L.

points of the compass (the lense being cut into two), so fixed as to throw the light *eight points* on each side of the ship, namely, from right ahead to abeam on either side, and of such a character as to be visible on a dark night with a clear atmosphere at a distance of at least four miles.

On the *starboard side*, a green light, so constructed as to throw an uniform and unbroken light over an arc of the horizon of nearly *eight points* of the compass, so fixed as to throw the light from *one point on the bow, or one point from the line of keel*, to one point abaft the beam on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least *two miles.*

On the *port side*, a red light, so constructed as to throw an uniform and unbroken light over an arc of the horizon of nearly *eight points* of the compass, so fixed as to throw the light from *one point on the bow, or one point from the line of keel*, to one point abaft the beam on the port side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least *two miles.*

The said red and green lights shall be fitted with inboard screens projecting at least three feet forward from the light, so as to block out the colored lights from one point from the bow, or one point from the line of keel, *on either side.*

All steamers to have their lights in *one fixed relative position.*— *Vide* Captain Heathcote's paper.

Portable lights, auxiliary to fixed lights.— *Vide* Captain Colomb's paper.

Articles 13 and 14 of the steering and sailing rules to be repealed as regards steamers meeting at night.

Rule 1.

If a vessel showing a *bright light only* sees a *bright light only*, she should put her helm to port.

Rule 2.

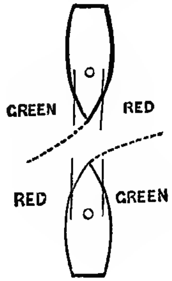
If a vessel shows a *red light* to another which is also showing a *red light*, she should put her helm to *port*, and the approaching vessel, seeing a *red light*, should put her helm to *port.*

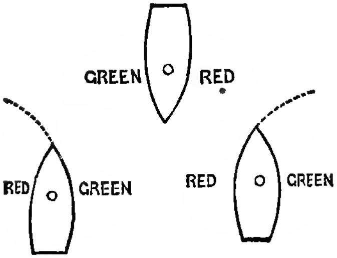
If a vessel shows a *green light* to another which is also showing a *green light*, she should put her helm to *starboard*, and the approaching vessel, seeing a *green light*, should put her helm to *starboard.*

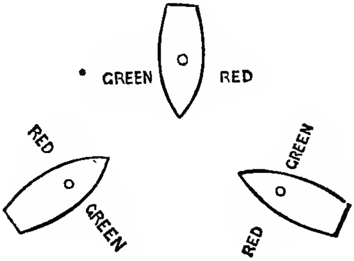
Rule 3.

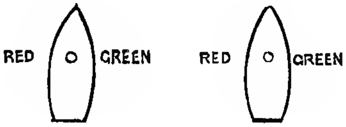
If a vessel shows a *red light* to another which is showing a *green* *light*, the vessel showing the *red light* should mind her *port* helm and *stand on.*

If a vessel shows a *green light* to another which is showing a *red light*, the vessel showing the *green light* should mind her *starboard helm*, stop *if necessary*, and then port her helm.









LAW OF THE PORT HELM.

On the 30th October, 1840, the Trinity House (London) issued the following order:

* * * * * * * * "And, whereas, the recognized rule for sailing vessels is, that those having the wind fair shall give way to those on a wind; that when both are going by the wind, the vessel on the starboard tack shall keep her wind, and the one on the port tack bear up, thereby passing each other on the port hand.

"That when both vessels have the wind large or a-beam, and meet, they shall pass each other in the same way on the port hand—to effect which two last-mentioned objects the helm must be put to port. And as steam vessels may be considered in the light of vessels navigating with a fair wind, and should give way to sailing vessels on a wind on either tack, it becomes only necessary to provide a rule for their observance when meeting other steamers or sailing vessels going large."

"Under these considerations, and with the object before stated, this Board has deemed it right to frame and promulgate the following rule, which, on communication with the Lords Commissioners of the Admiralty, the Elder Brethren find has been already adopted in respect of steam vessels in Her Majesty's service; and they desire earnestly to impress upon the minds of all persons having charge of steam vessels, the propriety and urgent necessity of a strict adherence thereto, viz:

"RULE.

"When steam vessels on different courses must unavoidably or necessarily cross so near that, by continuing their respective courses, there would be a risk of coming in collision, each vessel shall put her helm to port, so as always to pass *on the port side* of each other. A steam vessel passing another in a narrow channel must always leave the vessel she is passing *on the port hand*."

It has been, and is still contended, by many very intelligent and accomplished seamen, that the foregoing "Rule of the Port Helm" for steamers, was a departure from the principles which had previously obtained in the rules, or common law of the sea for passing vessels, that that departure from well-established principles was extremely unfortunate in its consequences; that the present Rules under the "Merchant Shipping Act," as amended in 1862, are in the main merely developments of the vicious principle introduced by that Rule, and, with exceptions, probably the cause of accidents by collision, which they were intended to prevent.

Whether these positions can be sustained or not, they are well deserving of the consideration of every intelligent seafaring man whose life or property depends upon the correct understanding of the established "Rules of the Road" and the "Sailing and Steering Rules," by which the vessels of all or nearly all maritime nations are now authoritatively governed. Among the earliest recorded "Instructions for the Conduct of Ships of War," (issued some time during the last century to the British Navy,) are as follows:

II.

"In order to avoid inconvenience from the customary practice founded on the regulations in the General Printed Instructions, with respect to the conduct of senior officers towards their juniors, the ships of war are to bear up for each other, shorten sail, &c., without regard to the seniority of the commanders, or other claim of distinction, in such manner as shall be found most convenient on either part, and may best guard against the hazard of falling on board of each other. But when ships are upon different tacks, and must cross near each other, the ship on the *starboard tack* is to keep her wind, while that on the larboard is always to pass to leeward."

In the "General Instructions to the Night Signals," &c., by Sir C. Knowles, 1780, is found:

"1st. All ships on the *larboard tack* are to bear up for those on the starboard tack when passing on opposite tacks."

In the British Naval Instructions of 1816 the Instruction II, quoted above, reads: "When ships are upon different tacks, and must cross near each other, the ship on the starboard tack is to keep her wind, while that on the larboard tack is always to pass to leeward, bearing up in time for that purpose, if necessary," and omitting all the rest of the original instructions.

It would seem, from these "Instructions," that it was then held that the best security against collisions was to be found in leaving the judgment free (as to the helm to be used) of the persons in charge of the ships; that there was no compulsory rule in regard to altering the helm, for the ship on the port tack always had the option of avoiding crossing near the vessel on the starboard tack by starboarding her helm and tacking, which has always been, and is still practiced at the present day, by good seamen; and that the only binding rule which then existed was the one making it compulsory for the ship on the starboard tack to continue her course, so that her *certain* movements should become a fixed element to guide the action of the approaching ship. It does not appear whether the Trinity Rules of 1840 were issued as mere embodiments of the assumed usual customs of shipping—the common or unwritten laws of the sea—or as actual laws, binding upon British shipping in the same manner, though not to the same extent, as the present statutory Rule of the Road and Steering and Sailing Rules, under the amended Merchant Shipping Act of 1862, now adopted by most of the maritime nations of the world. There, however, is nothing in the rules, ["that those having the wind free shall give way to those on a wind;" and, "that when both are going by the wind, the vessel on the starboard tack shall keep her wind and the one on the port tack bear up, thereby passing each other on the port hand,"] interfering more with a free exercise of the judgment in particular cases, than there was in the rules of the last century, already quoted.

The rule, "that when both vessels have the wind large or a-beam, and meet, they shall pass each other on the port hand, to effect which two last-mentioned objects the helm must be put to port," is in effect the same as the two former, except in the extremely rare case of two ships approaching each other end on, with the wind exactly a-beam, for a ship with the wind even a point abaft the beam must consider herself as having the wind free, and should know that any ship right ahead, and steering an exactly opposite course, will not be much off the wind.

The ship with the wind a little abaft the beam would not ordinarily haul up and pass to windward of the approaching, nearly, or quite close-hauled ship. If the wind was on her starboard side she would most likely starboard, and not port her helm. The approaching vessel, by the wind, within a point or so, would not consider herself "free," in the sense to make her give way, and would probably, under such circumstances, continue her course, or at most haul up to "a rapfull and taut bowline," which would require the starboard helm if the wind should be on the port side.

The third rule, just quoted, is of itself of little importance, but it has been made the foundation of a universal rule to govern the movements of steamers—a class of vessels not in existence when the old rules were found.

The Trinity Board says: "And as steam vessels may be considered in the light of vessels navigating with a fair wind, and should give way to sailing vessels on a wind on either tack, it becomes only necessary to provide a rule for their observance when meeting other steamers or sailing vessels going large." "Under the circumstances," &c., see ante, and then follows the Rule, "where steam vessels on different courses must unavoidably cross so near that, by continuing their respective courses there would be a risk of coming in collision, each vessel shall put her helm to port, so as to pass *on the port side of each other.*"

"A steam vessel passing another in a narrow channel must always leave the vessel she is passing *on the port hand.*"

It has been well said, by an able writer on this subject, that "the old rules, as we have seen, left the judgment free as to the helm to be used; they only bound ships in particular situations to maintain them. Every person in charge of a ship under these rules formed his judgment, and acted on facts established by her own situation, and not by his estimate of the situation of any approaching ship. If his ship were on the starboard tack by the wind, she stood on and feared and avoided nothing. If she were on the port tack she was safe from everything on her port side, because anything approaching on that side must be free, and therefore bound to keep out of her way; but, on the other hand, everything approaching on her lee bow was an object whose path must be avoided. The law being *always* in force did not admit of a difference of opinion as to the obligation incurred.

"If she were before the wind or free, she used her judgment in each individual case as it arose, acting so as to pass astern of ships crossing her course from either side, and knew, from her own situation, that all ships calculating on her doing so would simply continue their courses.

"The principles of the new rule are totally different. It binds the judgment as to the port helm to be used, and it binds no ship to maintain her situation; whether it is in force or no is a matter of opinion depending on the estimate formed of a remote contingency. It acts, in fact, in direct antagonism to the laws of sailing vessels, and throws aside the experience of ages at a blow."

An expert, called as a witness before the British Parliamentary Committee in 1860, said: "Here is a necessity for an agreement between both parties as to any danger, utterly unmindful as to difference of opinion; one man thinks that if each continues his course there is no danger, the other, to be on the safe side, ports his helm and causes the collision, and the collision then becomes a justification for concluding there was danger."

It would seem, therefore, that the cases arising, or that might arise, between sailing vessels where a compulsory helm for both was desirable, must be extremely rare, and that there was no necessity "for such a revolution—any interference with old principles."

The authors of "The Law of the Port Helm"* say: "A little consideration will tell us that the cases are quite as rare in steamers."

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* By Commander P. H. Colomb, R. N., and Commander H. W. Brent, R. N. London, 1866.

"Let X (Fig. 1) be a steamer steering N., and let Y be another of equal speed, steering N.E., at the point *a*. If the two ships continue their courses, there will be risk of collision at the point *o*. They must, therefore, both port. But porting by no means lessens the danger, as, if Y ports more than X, there may still be collision, and X can never come up to his old course without infringing the rule, unless he completes a circle. The rule of port helm is here distinctly mischievous. Why should Y be compelled to shift his helm, when by simply easing his engines the object is fully gained? and why should not X continue his course untroubled by Y?

"Suppose Y in the position *b*, steering E. There is again risk of collision at *o*, again both ships must port. What is required is simply to get *X* on Y's port bow without danger. Then why should X not assist in bringing that event about by continuing his course, letting Y alone port—or if he prefers it—stop his engines?

"Suppose Y in the position *c*. Both ships again port by the rule, and certainly clear each other; but supposing Y to port till he brings X on his port bow, in what way does X assist by porting his own helm? Would he not be much sooner in a position of safety by continuing his course? and would not Y be much more satisfied if he knew that X would not alter his course?

"Suppose Y in the position *d;* it is evidently a matter of perfect indifference which way either of the two ships shifts her helm, so long as they do not both use different helms, so port helm for *one* of them is just as good, but not better than starboard. For both to shift their helms is as unnecessary in this case as we saw it to be in the others.

"If Y be in the position *e* or *f*, and X ports, Y does not assist matters by porting also, nor is the use of port helm by X the best means of avoiding a collision at *o;* the stoppage of her engines is distinctly preferable.

"For X and Y to port when Y is at *g*, is only less dangerous than X porting and Y starboarding.

"We have thus seen that for two ships to put their helms a-port when one is in the position X, and the other in those of *a*, *b*, *c*, *e*, *f*, and *g*, is not the best mode of avoiding collision at the point *o*. And that there is no absolute necessity for both ships porting when at the points X and *d*, but as some change of helm on the part of one ship is necessary in this latter case, it may as well be port as starboard.

"But if the view is correct for *a*, *b*, *c*, *e*, *f*, and *g*, it is also correct for any intermediate point except *d;* and as the case of X, when Y is at the point *d*, is clearly exceptional, there is nothing in the circumstances of steamers meeting in the open sea justifying a compulsory helm.

"From what has been stated, we gather that the Trinity Board, in the establishment of port helm as the rule for steamers, were guided by a fancied analogy between it and the rules already in existence for sailing vessels, which analogy did not really exist.

"To make this rather more plain, let us suppose X and Y to be sailing vessels, X to be on the port tack, wind W.N.W. We have seen her as a steamer compelled to shift her helm on nearing every ship marked in the diagram, but now we find she keeps her course, and does not touch her helm if Y be in either of the positions *a*, *b*, *c*, or *d*. Only in the case of Y being in the position *e*, does she shift her helm, or trouble herself as to danger of collision, whilst Y cannot approach her from the positions *f* and *g*.

"Let X be on the starboard tack, wind E.N.E., she gives way to nothing, and never shifts her helm at all.

"Let her be nearly before the wind, which may be from S.S.E. to S.S.W., and she starboards her helm to clear Y in the positions *b* and *c*, and sheports it to clear Y in the positions *e* and *f*. There can be no ship in the position *d*, and for ships in positions *a* and *g*, she takes such means as may appear best to effect the end in view.

"Only in the single case of Y being in the position *d*, with the wind E. or W., would the rule of port helm rigidly apply.

"Fully admitting that violent changes in steering and sailing rules are as dangerous in their way as all other revolutionary movements are in theirs—and therefore recognizing the propriety of the Trinity House seeking to establish their new steam rules on the basis of the old sailing ones—we have said enough to warrant our belief that the introduction of the rule of port helm was in itself a departure from, and not a following up of the principles which governed sailing vessels.

"We discover, by an examination of the reports of the Committee of 1831, and the Royal Commission of 1836 on Steam Navigation, and especially from the evidence appended thereto, that the real source of this rule of compulsory helm was the practice of vehicles in the streets being applied to steamers *in rivers*, with very little thought of the changed condition surrounding steamers in the open sea.

"Here, for instance, is a paragraph in the report of 1831:

"'That it should be generally understood that, whenever two steam vessels find themselves unexpectedly near each other, 'stem on,' both vessels are to put their helms a-starboard, unless there be some evident cause to prevent it; and if the vessels be not directly 'stem on' to each other, their helms should be only altered so as to make them sheer from each other.'*

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* See Appendix A.

"This Committee only take into consideration the steam navigation of the *River Thames*, and there were at that date but fifty-three steamers navigating the river, of which *eleven* only belonged to other ports!

"The Royal Commission of 1836 drew attention to the fact that the suggestions of the Committee of 1831 had never been acted on, and that 'the evil by accident continued to increase.'

"'We are aware,' say the Commissioners (p. 13, report) 'that the same rule (for sailing vessels) is not strictly applicable to steam vessels, and that there exists great difficulty in treating a subject involving the varying nature of the circumstances in which steam-vessels are placed *in a river*, as regards the state of the tide, the depth of water *in the river*, &c., &c.'* And in the Appendix to that report we have, 'Proposed regulations for the navigation of steam-vessels,' the first clause of which states that—

"'*In the Thames*, and in all the *rivers* and channels of the United Kingdom, and in all cases of wind, weather, and tide, steam vessels are to endeavor to keep on that side of the river or channel which lies on their starboard hand;'* nor is there in the seven clauses of these regulations any sign of a contemplated rule *except* in rivers and channels. Thus we see plainly enough that the Trinity Board rule of port helm for steamers was founded, not on the existing custom of sailing vessels in the open sea, but on the existing custom of steamers in rivers, embodied in the second paragraph of their rules.

"But, in fact, if what we have already said be admitted as true, half the labor of proving the badness of the rule of port helm is taken off our hands. For, first, we admit, and it will be generally admitted, that the new rules should have been analogous to the old, and we have failed, on examination, to detect such analogy.

"Secondly, we tried to show that for both ships to shift their helm was never the best way to avoid collision. Now the only excuse for the introduction of a new principle would be its superiority to the old one. If, therefore, the new rule of port helm was a new principle, and was yet not better than the old one, the impropriety of its introduction stands confessed.

"But let us now investigate a little more closely the operation of the rule, and we think it may be shown to be in itself vicious and dangerous, without reference to any other rules whatever.

"In referring to Fig. 1, and describing the operation of compulsory port helm, we have pre-supposed several matters, all in favor of the rule, but which in fact are very seldom concurrent.

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* See Appendix B.

"We supposed the ships X and Y in all positions to have equal speed, to be equally distant from the collision point, and to alter their helms at the same moment.

"But now, considering the ships X and Y, in Fig. 1, to be steam vessels. If Y at *a* be a vessel of greater speed than X, or, which is the same thing, be nearer the point of collision and ports first, a collision may become imminent. And, moreover, if the sweep which Y at *a* makes in turning to starboard would naturally cross X's course ahead of her, X by porting will increase the danger. Whereas, if Y's sweep will naturally pass astern of X, the danger of collision is past, and X need not touch her helm. The same argument applies if Y be in the position of *b* or *c*; but here a diagram (Fig. 2) will assist in explaining all these cases. If Y, in the position of a^1, ports her helm, describing a sweep a^1v, there is no risk of collision whether X ports or not. If Y waits till she is in the position a^2 and then ports, a collision may occur if X does not port or starboard, but for the safety of the ships it is a matter of indifference which she does. If Y, however, does not port till she is in the position a^3, X will only increase the danger by porting.

"Port helm is, therefore, useless to avoid a ship which is porting between a^1 and a^2, and dangerous when the ship ports between the points a^2 and a^3. The case at a^2 is clearly exceptional. It is consequently unadvisable to use port helm in avoiding a ship approaching on the port side which has already ported.

"The position of Y at *b* (Fig. 1) is chosen for closer investigation as the middle case, which, by extreme treatment, most clearly exposes the deficiencies of the rule of port helm. It is not to be understood that we suppose Y, in the position a^3, would continue her helm a-port a moment after she had crossed X's course. But, on the other hand, in such a case X, by porting, would keep herself still on Y's starboard side, which it has been the object of both ships all through to avoid.

"The same principles which are seen to govern the case of ships meeting when the course is at right angles, evidently govern them at all other angles, but these cases being more difficult to illustrate by diagram are omitted.

"Again, what is true of port helm for ships approaching on the port side, is also true of starboard helm for ships approaching on the starboard side; and in the diagram Fig. 1, *g*, *f*, and *e*, are in the same position as regards X, as the latter was respecting *a*, *b*, and *c*.

"We still have the indifferent case where Y is at *d*, but that we have already sufficiently remarked upon.

"Upon the whole, we seem at this point to have arrived at the distinct conclusion that the rule for *both* ships to port their helms is *unsafe* in all cases except one, when it is unnecessary.

"We have as yet supposed that the ships X and Y, in Fig. 1, although they might be unequally distant from the point of collision in time or space, and not simultaneous in the movement of their helms, were yet fully aware that there was risk of collision if they continued their courses, which understanding pre-supposes an accurate knowledge of each other's speed and course.

"But it will be at once admitted that this knowledge *never* exists. The great mass of collisions which any sailing and steering rules would obviate, arise simply and distinctly from the want of this knowledge.

"It is now necessary to examine the rule of port helm as applied under these conditions of fact.

"We have spoken of all the cases in which there was real risk of collision by a continuance of both ships' courses, and that risk was known to both ships. We now speak of those cases where there is no risk of collision, but that risk is supposed by either ship.

"Taking X, in Fig. 3, in his old position, we find at once we need consider no cases on his port side, as a supposed risk of collision causing him to port his helm, leads to no result whatever. It is different with ships on his starboard side if Y be at *d*, *e*, *f*, or *g*, it is quite evident, without further illustration, that the application of the rule by either X or Y, or by both of them, will most probably lead to disastrous consequences.

"There is yet one aspect in which the introduction of the rule of port helm as first issued, must be viewed before we pass on to other considerations. The observance of the rule required on the part of a steamer, a further piece of knowledge; or the non-observance of it might be justified by acting on a supposed fact, namely, that her approaching neighbor was not a steamer. X, a steamer, (Fig. 1,) might suppose Y—also a steamer—in the position *c* to be a sailing vessel on a wind, and Y might know X to be a steamer. X would starboard and Y would port, and a collision would occur.

"The cause of collision would be set down as X's negligence in not making out Y to be a steamer. The real cause would be the law making Y at *c* pursue a course different to that she would have pursued had X been right in his supposition.

"We have now reviewed the original sweeping rule of port helm for steamers as at first issued under high authority. We have shown it to be erroneous in its foundation, and the first step in a wrong direction. We shall now endeavor to show how legislation wandered deeper and deeper into the darkness, never attempting for 22 years to recover its lost path, until we meet in the Act of 1862 with a little glimmering of light amongst more murky clouds than ever!

"There was one feature in the Trinity House rule which has been obliterated—whether judiciously or not we do not here stop to enquire—it was not compulsory.

"The Board simply desired 'to impress upon the minds of all persons having charge of steam vessels, the propriety and urgent necessity of a strict adherence' to it.

"Whatever other effects a non-compulsory interpretation of the rule may have developed, there were some which probably had a very important, and, in our view, a very injurious action on subsequent legislation.

"The rule being simply a recommendation would be only partially obeyed, therefore its effects would be only partially understood. Those who did not adopt it could only offer an adverse opinion, unbacked by actual experience of its working. Those who did adopt it were most probably impressed beforehand in its favor, and their experience of its action was neither extensive enough, nor probably adverse enough, with the small number of steamers and the partial adoption of the rule—to shake their preconceived faith in it. Nor even with those who adopted it was it probably allowed to override the judgment in each particular case. So that when it was suggested, after six years of non-compulsory working to make it compulsory, there would be no strong evidence against the rule itself, although there would be plenty testifying to the unsatisfactory nature of the whole arrangement as it stood.

"The rule of port helm would, therefore, come before Parliament with the authority of the Trinity House, backed by six years' use, and comparatively unopposed.

"The natural cure for dissatisfaction at the existing arrangements would be, therefore, a uniform enforcement of existing rules. The ultimate result was the following 9th clause of the Act of 1846 for steam vessels:

"'*And be it enacted*, That every steam vessel, when meeting or passing any other steam vessel, shall pass as far as may be safe on the port side of such other vessel; and every steam vessel navigating any river or narrow channel shall keep as far as is practicable to that side of the fairway or mid-channel of such river or channel which lies on the starboard side of such vessel, due regard being had to the tide and to the position of each vessel in such tide; and the master or other person having charge of any such vessel, and neglecting to observe these regulations, or either of them, shall, for each and every instance of neglect, forfeit and pay a sum not exceeding £50.'*

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* See Appendix C.

"Now, if this enactment be compared with the Trinity House rules, we observe that, while compulsory observance is for the first time introduced, the rules themselves are not nearly so stringent. The words 'as far as may be safe,' are susceptible of a double construction, but we think the plain meaning to have been that ships were to pass on the port side of each other when it was safe to do so. Then, again, the words 'meeting or passing' do not seem to apply except in cases where the approaching ships are steering nearly opposite courses, whilst the Trinity rules expressly included all cases whatever of steamers crossing.

"The second paragraph of the Trinity Rules, compared with its corresponding words in the Act, bring out in a very forcible way the different ideas under which the sentences were framed.

"On the whole, it appears that we now had compulsory obedience to a relaxed rule, instead of optional obedience to a stringent one.

"The natural result was a confused idea of the stringency both of the rule and of its observance.

"The effect of this view is seen in the following clause in the Act of 1851:

"XXVII. 'Whenever any vessel proceeding in one direction meets a vessel proceeding in another direction, and the master, or other person in charge of either such vessel perceives, that if both vessels continue their respective courses they will pass so near as to involve any risk of collision, he shall put the helm of his vessel to port, so as to pass on the port side of the other vessel, due regard being had to the tide and to the position of each vessel with respect to the dangers of the channel, and, as regards sailing vessels, to the keeping of such vessels under command; and the master of any steam vessel navigating any river or narrow channel, shall keep as far as is practicable to that side of the fairway or mid-channel thereof which lies on the starboard side of such vessel; and if the master, or other person having charge of any steam vessel, neglect to observe these regulations, or either of them, he shall, for every such offence, be liable to a penalty not exceeding £50.'*

"Hitherto we have seen sailing vessels untouched by legislative enactments; in this clause we have the whole of old sailing rules swept away, and all navigation in the open sea reduced to one compulsory and absolute rule of port helm.

"Doubtless, were it possible that one single rule, to be acted on in all cases, could be maintained with safety, such a rule would be a boon to seamen; but in the foregoing pages it has been, we think, made sufficiently clear that the rule of port helm is not such a one as to satisfy that position.

"This is the proper place to advert to some facts whose weight in determining the formation of the rules deserves careful estimation.

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* See Appendix D.

"The frequency of accident from collision has always been—as might be supposed—greater by night than by day. At the present time it is three times as great. The former fact being known to most persons, it must be supposed that the framers of the rules for steering would naturally be most anxious to limit the chances of collision at night, and would probably have the circumstances of ships at night prominently before them in any arrangements they might decide on.

"Before the days of steam, the wind, a force common to and governing the movements of all ships meeting at sea, gave an observer in any one ship a basis for the more or less accurate determination of the course of any ship near at hand, so that at night seamen were not altogether without the means of judging as to the best method of keeping clear of the course of a ship which it was their duty to avoid. But when ships began to move under the impulses of a power generated within themselves, there was no longer any basis whereon to estimate the direction of an approaching steamer's head.

"The idea of marking the sides of a ship by different colored lights did not become a regulation until 1848, and at the end of 1849 there were still 'an alarming number of steam vessels either in ignorance of, or disregarding, or inefficiently observing the system,' so that when the last quoted statute was drawn up, few people could speak from much experience as to the possibility of estimating a ship's course at night. The obvious reflection is, that it was probably thought impossible to leave steamers to act on their judgment in avoiding each other when there was no basis whereon to form such judgment; and it was probably hoped by a fixed steering rule to obviate all necessity for such a basis.

"Further legislation took place in the enactment of the Merchant Shipping Act in 1854. The clauses which follow are merely a more precise and definite exposition of the principles laid down in 1851:

"'296. Whenever any ship, whether a steamer or a sailing ship, proceeding in one direction, meets another ship, whether a steamer or a sailing ship, proceeding in another direction, so that if both ships were to continue their respective courses they would pass so near as to involve any risk of collision, the helms of both ships shall be put to port, so as to pass on the port side of each other; and this rule shall be obeyed by all steamships and by all sailing ships, whether on the port or starboard tacks, and whether closehauled or not, unless the circumstances of the case are such as to render a departure from the rule necessary in order to avoid immediate danger, and subject also to the proviso that due regard shall be had to the dangers of navigation, and as regards sailing vessels on the starboard tack close-hauled, to keeping such ships under command.'*

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* See Appendix E.

"The best commentary on this clause is to be found in Captain Drew's evidence before the Select Committee in 1861; we commend it to those who wish to enter further into the question, but to quote portions of it here would not strengthen the conviction a perusal of the whole of it is calculated to produce.

"The clause remained the law for passing vessels until it was repealed by the passing of the Act of 1862, by which shipping now are guided.

"Let us here recapitulate the changes in the law from 1840 to 1862:

"First. Six years of a stringent non-compulsory rule of port helm for steamers. During which the old sailing rules remained untouched.

"Second. Five years of a compulsory but pliant law of port helm for steamers only. The old sailing rules remaining untouched.

"Third. Eleven years of a compulsory stringent law of port helm applicable to all classes of vessels. Total abolition of the old sailing rules.

"We doubt whether any commentary could be stronger or more suggestive than the bringing together of the foregoing paragraphs.

"We therefore proceed at once to the consideration of the present rules; making the observation that the 22 years of legislation which had passed before 1862, could not have been more carefully directed to imbue seamen's minds with the idea they are still known to hold, that the rule of port helm was a Median and Persian law which altered not.*

"The first gleam of light amidst the darkness appears in the following extract from the report of the Select Committee on Merchant Shipping, 1860:

"'The question of the Rule of the Road * * * * when vessels meet each other, deserves, however, particular attention. This section in the act (1854) as it stands at present, is most unsatisfactory, however the decision of our Courts of Admiralty may have modified its dangerous tendency. The evidence given is conclusive that some change in the existing regulations is necessary;† and your Committee express a hope that the Board of Trade will take steps to move the Foreign Office to communicate with Foreign Powers, with the view to the adoption of some common system founded upon general practice and professional experience; and that our law may be altered accordingly.'‡

"In accordance with this report the clauses of the act of 1854 were expanded and modified into the ten paragraphs which now constitute the sea Rule of the Road, not only for British ships, but for those of nearly all maritime nations.

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* "The case of the Ann and Mary is in harmony with the belief among seamen that in all cases of doubt (!) the helm is to be ported."—Naut. Mag., November, 1851, p. 598.

† The published evidence is all against founding a rule on "risk of collision" and compulsory helm.

‡ See Appendix F.

"The rules govern the movements of two ships under the following six sets of circumstances, for each of which a separate paragraph is provided.*

"1. Two sailing ships meeting (Article XI.)
"2. Two sailing ships crossing (Article XII.)
"3. Two steamships meeting (Article XIII.)
"4. Two steamships crossing (Article XIV.)
"5. A sailing and a steamship approaching each other (Article XV.)
"6. One ship overtaking another (Article XVII.)

"Now it is important to consider what had been the tendency of legislation up to this point, and whether this tendency was acquiesced in or opposed by the above arrangements.

"There is not much difficulty in concluding that the tendency of 'Rules of the Road' had hitherto been the suppression of the idea of exceptional cases, and the reduction of all rules to such a simple form as would enable them to be applied without consideration to all possible cases of proximate collision: to aggregate the various classes of circumstances under which ships may meet at sea, and to deal with them so aggregated.

"The tendency of the present rules is, equally clearly, to disintegrate these classes of circumstances, and to deal with each separately. The tendency of previous legislation was consequently strongly opposed by the act of 1862.

"The question naturally arises, whether the tendency of previous legislation was right or wrong? And in answering it, due regard must be had to the separation between the goodness of the end in view and of the means used to attain it. It may be admitted that an attempt to simplify the existing rules was justifiable, and it may further be admitted that it was desirable all rules should be gathered under a single one, provided that single rule could cover all cases. The selection of a rule which does not cover all cases is an error of detail, but does not necessarily make the attempt to select improper.

"It appears to us that the sole intention of the laws of 1851 and 1854 was simplification; that such a tendency was, as similar attempts usually are, in all respects good; and that only an unfortunate selection of a rule hindered the success of the attempt and left matters in the state so strongly reprehended in the report before quoted.

"Holding this view, it follows that we conclude the tendency of the present act to be wholly wrong. That it has tacitly condemned the end sought in previous laws, when it should have upheld the end but condemned the means.

"We do not at this moment refer to the goodness or badness of each of the rules laid down; we simply mean that the only excuses for so many rules were an impossibility of remedying the fault of the single rule selected in 1854 except by such multiplication, and a clear proof that the remedy was not worse than the disease.

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* See Appendix G.

"In order to avoid collision when there is risk of it, quick and decided action on the part of those in charge of the ships is of all things necessary. To have a great variety of considerations presented to the mind in the moment of action is fatal to decision; and yet the most cursory glance at these rules will show that, to any one who has mastered and understands them, such a variety of considerations must present themselves every time there is risk of collision to a ship of which he is in immediate charge.

"Let us suppose he is in a sailing vessel on the port tack, close-hauled. A sail is reported on his port bow. In the interval between his first sighting her and making out what she is, and that there is risk of collision, he must reflect:

"(1.) That if she turns out to be a sailing vessel—

"*a.* He must port his helm should she be standing for his bow, as they may be "end on or nearly end on" (Article XI).

"a^2. But as he is on the port tack, close-hauled, the approaching ship must necessarily be free, therefore he must not port his helm, but stand on (Articles XII and XVIII).

"*b.* Should she turn out to be on the port tack a little more off the wind than he is himself, he will continue his course, because his neighbor is to windward of him (Articles XII and XVIII).

"b^2. But should it turn out that his own speed is greater than that of the other, then he will keep out of her way (Article XVII).

"(2.) If she turns out to be a steamer, he continues his course (Articles XV and XVIII).

"So that he may discover in the appearance of this sail which has been reported, either of three circumstances which compel him to keep his course; or two circumstances which will compel him to alter it, all binding on him by law, and with which his judgment cannot interfere.

"We hardly think it necessary to pursue this analysis of the bearing of the rules on the actual circumstances of the sea. Enough is given by the foregoing example to show that the variety in the application of the rules is greater than can be carried in the minds of ordinary seafaring men, and if they cannot be so carried, however valuable such rules may be as a standard of appeal in the Admiralty Court for the purpose of putting one party clearly in the wrong after the event—they are, from their intricacy, powerless to act in any degree as a preventive of collision.

"Another most vulnerable point of attack in the present rules is the fact that there is no clearly defined line of demarcation showing where one rule ceases and another begins to operate. There are two distinct modes of proceeding laid down, one for ships meeting 'end on or nearly end on' and another for ships 'crossing.' The action of two ships is different under each of the rules, but it is left entirely to opinion to say when ships are 'nearly end on' or 'crossing:' so, as might have been predicted, there is the widest possible variety of opinion on the point. Some hold that ships are 'nearly end on' when their courses cross at an angle of three points. Others maintain that at night ships cannot be 'nearly end on' unless both colored lights might be seen from either ship, which does not allow a latitude of more than one point of difference between their courses. Some assert that 'crossing' is the term which describes the mass of the positions in which ships may arrive to bring on risk of collision. Others, that 'nearly end on' practically covers nearly all such cases. Yet the conduct of ships 'nearly end on' is ordered to be altogether different from that of ships 'crossing.'

"Thus, we observe, there is absolutely no *fixed* rule to govern the movements of ships, either as sailing vessels or steamers, when their courses are such as to bring them into collision at any point. One sailing ship may fairly consider herself under Article XI, and the other quite as fairly under Article XII. One steamer may act as though she were under Article XIII, and the other on the conviction that she comes under Article XIV.

"Many will say these are but slight discrepancies, but they are not too slight to carry in their train the frightful losses of life and property with which the community is constantly startled.

"We observe, again, in these rules, that they still involve the contrariety of principle which the addition of the new rule of port helm to the old sailing rules first displayed in 1840. Articles XI and XII carry out the new rule of both ships moving. Articles XII, XIV, XV, and XVII, embody the principle of the old rules that one ship only should get out of the path of the other ship, which does not vary her course.

"But the old sailing rules themselves are not restored in their integrity, for, by Article XI, the old immunity from movement is withdrawn from the ship on the starboard tack close hauled. Nor can any impartial reader admit that Article XII is a clearer or simpler mode of expressing the intention that 'ships having the wind fair shall give way to those on a wind,' than those words themselves convey.

"There are, however, certain of the rules to which unqualified adhesion may be given with safety.

"These are Articles XIV and XVIII, about which we shall presently have much more say; and Article XVI, which is a most important one· Articles XIX and XX, or a modification of them, must naturally find a place in whatever rules may be drawn up.

"We have thus, without going into extremes of detail, endeavored to put forward what appeared to us the defects and merits of each stage of legislation on the question of the risk of collision, from the early days of steam navigation down to the present date.

"We have not hitherto attempted to quote cases in support of our views, but we have dealt with what appeared the plain inference to be drawn from the existing facts of the law and the circumstances of the sea.

"It now becomes our duty to attempt the suggestion of the remedies proper to be applied in correction of the errors pointed out, and we come to that attempt with the more diffidence as being impressed with the knowledge that the measure of the difficulty of the problem, is the clear fact that twenty-two years of legislation have failed to produce a solution.

"It may be inferred from what has been said, that we believe the true remedy would be found somewhere in the direction of the old sailing rules. And that a return to the principles which, of old, governed the highway of the sea, is the only method by which that large number of collisions which now arise from "neglect or misapplication of the steering and sailing rules"* can be lessened.

"These principles may be here recapitulated with advantage. They are:

"1. Brevity.

"2. Clearness.

"3. Simplicity.

"4. That one ship only should clear the path of the other, which is to stand on.

"5. The rules should depend more on matters of *fact*, and less on matters of opinion.

"The circumstances under which ships meet one another in the open sea at the present day, do not differ in manner, however much they do in degree, from those under which they met before the introduction of steam.

"Their courses then crossed at various angles as they do now, and, so long as sailing vessels exist, the meeting on exactly opposite courses on the same line will continue an altogether exceptional case.

"The only practical difference is, that whereas there was a quarter embracing twelve points of the compass, and determined by the direction of the wind from which a ship could not approach another, and which to the other was therefore a safety point, there is now no such safety point, as by the introduction of steam, ships have become liable to be approached from every quarter of the compass. But this was really the only change which was made in the circumstances of ships meeting; and ships of all classes, whether steam or sail, when their courses crossed at a certain angle, might have acted to clear one another in precisely the same manner—so far as the movement of the ships was concerned—as they would have done as sailing ships steering in similar relative directions.

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* **Board of Trade Returns.**

"But the introduction of steam, though it did not affect the actual circumstances of ships meeting, yet destroyed the basis by which a prearranged behavior of ships, when approaching one another, was secured.

"The direction of the wind, his own course, and the bearing of any sail met with at sea, told the person in charge of the ship, in distinct terms, what steps were incumbent on him to take, should it turn out that there was risk of collision. But when steam came in, these matters which were well ascertained facts, became of no value in determining the proper steps to be taken, for though he himself might be in a sailing vessel, and governed by the wind, the ship approaching might be independent of it; and again, were he himself independent of the wind, he had no certainty that the approaching ship was not governed by it, so that his only means of forming a judgment on the steps necessary to avoid accident was a careful examination of the approaching ship herself.

"He no longer guided himself under the law by the facts concerning his own ship, which were well known to him, but by the opinion he formed of the facts relating to the other ship, the grounds for which opinion could only be partially ascertained.

"Hence we see that when the difficulties of making out a ship's character and course are greater—namely, at night—special means have been taken, by the adoption of certain permanent lights, to distinguish the steam from the sailing vessel, and to give some slight idea of a ship's course to an observer outside her.

"These appliances modified the difficulties of the question, but did not destroy them, for the law still left persons in charge of ships under the impression that they were bound to act, not on their own circumstances and position, but on those which should appear, as far as they could judge, to belong to their neighbors.

"But although, by the use of steam the value of the wind, as a common agent determining the courses and positions of ships when there was risk of collision, was withdrawn, there was yet a circumstance common to all ships, whether steam or sail, whenever there existed such risk. The ships must either be both stem on, or the port side of one must be towards the starboard side of the other. If the starboard bow or side of one ship were towards the starboard bow or side of another ship, there could be no risk of collision; or if the port bows or sides of both were opposite, there could also be no risk of collision, nor anything calling for either ship to alter her course.

"If, therefore, rules were to be framed founded on this fact, we should find them strictly analagous in principle with the old Sailing Rules, and they would naturally tend more and more to simplicity, brevity, and clearness.

"Rule XIV of the present regulations is consequently, in our view, the most important steam rule yet issued, and one which, we believe, will yet be the foundation on which all rules must be built.

"Certain modifications in the wording of the rule appear necessary, which we here insert as our main position and

"FIRST RULE.

"'*When any two ships intend to pass or cross near each other, that one which has the other on her own starboard side shall keep out of the way of that other; and that ship which has, or brings the other on her port side, shall keep a steady course until all danger of collision is past.*'

"Supposing for the moment that such a rule as this will cover all cases of ships meeting at sea, its simplicity is undeniable. And all will admit that it is capable of fixing itself distinctly in the lowest class of minds.

"There is another great advantage attaching to a rule framed in such terms as these, over any involving a prescribed use of the helm, namely, that no matter what mistakes may have been made in the movements of two ships approaching each other, the application of the rule still remains distinct and clear. However it may have been transgressed or forgotten, at any moment when it is remembered it may with confidence be acted on. With a compulsory helm the action of the law ceases the moment one ship of two has wrongly applied it. Both are then free of the law, and neither ship can draw from it any inference as to the action of the other.

"Put into other words our rule infers, that any person in charge of a ship is to consider everything on his port side as an object to get out of his way and avoid him, with which he has nothing to do; but every ship on his starboard side is an object for him to avoid. Or, that he has the right to cross the path of everything moving from port to starboard, but everything moving from starboard to port has the right to cross *his* path.

"Let us, therefore, test the application of this rule, by the same diagrams, representing the same cases as were applied to test previous ones.

"First, we may take the case of steamers meeting steamers, as in the diagram Fig. 1.

"X, a steamer, meets Y, another steamer, in the position *a*, *b*, or *c*.

"In those positions Y is on her port side, she, therefore, takes no steps to avoid her, as she has the right of crossing Y's bows. Y, on the other hand, has X on her starboard side, which makes it her duty to keep out of her way and let her pass. This Y may best do by easing her engines, or by stopping. Being bound by no law to port her helm, Y will hardly do so unless she has a very clear idea of X's course, her distance off, and of the prudence of such a movement.

"But if Y be in either of the positions *e*, *f*, or *g*, X, having them on her starboard side, is bound to keep out of their way, and to let them pass her. She is now, with regard to them, in the same position as Y was when on her port side, and is guided by the same rules and considerations as Y was then.

"So far we have a perfectly clear and distinct rule governing all cases of steamers meeting in the positions X and *a*, *b*, *c*, *e*, *f*, *g*, and of all intermediate positions except that of *d*.

"We have before shown and need hardly here repeat, that the former cases are the *rule*, and the positions *d* and X the exceptions, for the circumstances under which ships meet at sea.

"It will be asked, do we propose to leave the most dangerous position of all untouched by any express rule? The answer is, we certainly do.

"Had the course of previous legislation not been what we have shown it, a rule calling on ships to pass on the port side of each other when, in the words of the earliest proposed law, they were 'stem on,' might have been advisable. But as such a rule would now give countenance to the idea of a still compulsory 'port helm,' which it is our especial endeavor to destroy, we are prepared to face the lesser evil of leaving the case apparently without regulation. We say 'apparently' with a distinct purpose, for we believe that we practically retain the rule of port helm so far as it is good, and only destroy that misapplication of it which is mischievous.

"Let us suppose that X sights a ship right ahead at *d*, but does not at first make out her course, under the present regulations the tendency is for X to port at once, so as to be legally right. If Y be steering due south and does not alter course, X will clear her, but the chances are evidently several thousands to one against her being found to steer that particular course, and if Y is not steering due south, there can be no collision should both ships keep their courses. If Y should be steering S.E. (*d*, Fig. 3,) X is merely increasing the danger by porting; but if Y is steering anything to the westward of south there never was any danger.

"Ships opposite to one another with but a quarter of a point difference between their paths, and only one mile apart, will leave a ship's length between them in passing.

"But, under the action of the proposed rule, we may suppose that X will be less liable to alter his own course until he makes out Y's course, (at *d*,) because there is no law compelling him to touch his helm, and because unless Y be steering due south there can be no collision.

"But suppose that Y is found to be steering this exceptional course due South. It will at first sight appear that both ships are left totally unprovided with any guide to prevent them putting their helms opposite ways, and so bringing about a collision. But this is not so, for the persons in both ships will be anxious to take such a position as will give them least trouble, they will each naturally bring the other on the port side, so that they may not have to give way again, and the doing of this removes at once all chance of collision. So that steamers will still, as now, pass on the port side of each other in these cases, although no one can justify himself on the plea that he ported his helm without further consideration.

"But as it is evident that there will be cases where X will starboard and Y will port, notwithstanding the inducement the rule gives both to port, let us take a case of this kind and ascertain how the rule will act there:

"X and Y (Fig. 4) are two steamers steering opposite courses on the same line, at night. We will suppose that both have the same speed, and that in turning each ship describes a curve whose radius is 250 yards, which is full allowance for all but the longest and largest classes of ships; and we will place them not more than 850 yards apart, when X at *a* first sights Y's white light at *b*, and starboards his helm. Y now advanced to *c*, sights a light on his starboard bow. Now by the rule there is clearly nothing to make Y port his helm. He has the light on his starboard bow, his duty is to keep clear of the path of the vessel showing that light, and he has not yet ascertained her path. Nor is there any inducement for him to port his helm, as that will not put him even legally right, seeing that, should a collision occur, he will be condemned by the simple fact of the light having been observed on his starboard bow.

"But suppose that, ignoring all these points, he yet ports him helm. Having done so, and arrived at the point *f*, he sees X's green light now arrived at the point *e*, not more than 500 yards distant. Y steadies his helm, as the rule is still acting on him however much he may have transgressed it, and it now directs him to keep a steady course. X at *e*, finding himself still in the giving way position, puts his helm hard a-port, and the ships pass clear of each other ultimately.

"It is not to be denied that we have here a case of the greatest possible danger to both ships, but it is also not to be denied that it would be one of the rarest, and that in order to produce it a series of mistakes have been made which assume a perverse ignorance hardly capable of existing in two minds at the same time. First, X must have wrongly altered his course immediately on sighting a light right ahead, when the chances are many thousands to one that the ship carrying that light is steering a course quite clear of his own. Next he must have chosen to bring this light on that side which will be most likely to give him further trouble. Y must, in the first instance, make the same mistake that X did of altering course entirely on speculation, with the additional error that, having made out X on his starboard bow, it was his business to keep clear of her path, which he attempted to do by running across her bows.

"But admitting that such an aggregation of errors may be expected to combine so commonly to the bringing about of collision, that it is necessary to provide specially against them, we have still a suggestion to make, which we believe will meet all requirements.

"It is very seldom that two ships stand directly into danger with their eyes open, one or the other of them is commonly aware of what is about to happen, but from his doubt as to the ultimate proceeding of his opponent or other cause, he is unable to act so as to avoid it. On the other hand, all experience shows that men in charge of ships sometimes feel impelled to alter their helm, either one way or the other, when their minds are really in doubt as to the propriety of doing so. These things happen mainly at night, and the question may well be asked, why should ships not use some simple signals amongst themselves, either to point out their positions, or the helm they are using to approaching ships?

"If X at *a* (Fig. 4) could signal clearly and rapidly to Y at *d*, 'I am starboarding my helm,' Y's mind would be perfectly at rest as to what he ought to do, nor would there from that moment be the smallest risk. Suppose X, although prepared to make such a signal, did not do so, but that Y at the point *c* could say 'I am porting my helm,' so much time would still be gained, and so much increased risk avoided. Lastly, suppose neither of them thought of using these signals until Y arrived at the point *f*, but that she could then make, 'I am steering a steady course,' X's mind would be still more assured than it otherwise could be of the position he stood in with regard to his neighbor.

"It will be assumed that, however well ships might be supplied with the means of making such signals, such is the negligence of seamen that they would refrain from using them at the only times they could do so with advantage. The answer to this appears to be, that the extent of their use would be measured by the handiness and simplicity of the signal itself.

"We notice that, in all collision cases, some persons in either ship are found shouting 'hard a-port,' or 'hard a-starboard' to the other ship, previous to contact, but long before their voices could be heard. If they were provided with a signal as easy to use, but more powerful than their voices, there is every probability of their using it whenever it becomes necessary or prudent to do so.

"We have now traced the action of the proposed rule for steamers, and we think we have demonstrated, so far, that no evil results are likely to accrue from the abolition of the rule of port helm altogether, in its favor.

"The advisability of making such a rule apply to all classes of ships may be debated upon different grounds.

"On the one hand, we must remember that if we restore the old sailing rules to their full force, we embarrass the minds of those in charge of ships by modifying the application of the steam rule we have laid down, and tend towards placing that variety of considerations before them in every case of approaching vessels, which we have held one of the evils of the present law. We throw an additional element of doubt over choice of means to avoid collision, and an additional element of dispute in the apportionment of blame after the event. We certainly place sailing ships in the position they held up to 1851, but it is a question whether such a restoration is altogether advisable, seeing that sailing ships acted for eleven years on a different rule, and are not at this moment entirely under the old sailing rules.

"But we do not carry out the analogy to the state of things previous to 1840 which we have shown to be desirable, for one principal part of that state of things, was a single set of rules for all classes of ships, while we here introduce a double set of rules, neither of which can be properly obeyed until each ship has ascertained the class of the other.

"On the other hand, if we made one rule of universal application, we must consider that although the old rule for sailing vessels was superseded by statute in 1851, and by subsequent acts; in point of fact it still regulates passing ships to a considerable extent, the statute not being powerful enough to override the ideas which had been traditional for centuries.

"We may possibly also, by including sailing ships under the steam rule, impose duties on them which from the nature of things they cannot fulfil.

"Lastly, there is the general objection to change what has so recently been made the law, and been accepted as such by so many maritime states.

"Examining both sides of this question as carefully as we can, we are led to conclude that the weight of argument lies in favor of making the rule universal, with the exception of those cases (which must equally apply to all rules whatever) when following the rule would plainly lead to danger.

"For, in reply to the three last objections, it may justly be urged that if at the present moment statute and tradition are at variance, and jointly govern ships, there can be no reason for the preservation of a statute which has so far failed. Nor can there be any objection to the introduction of another statute, supposing it is not more at variance with tradition than the present one.

"If, however, the new rule is actually inapplicable to sailing vessels, the weight of argument is against us; but we shall endeavor presently to show that the new rule is plainly applicable to such ships, and moreover does not interfere with the tradition, except in certain cases.

"The final objection to change of any kind falls lightly after so many changes in the law since 1840. Nay, it is rather an argument for hastening the change, if it be really a desirable one, for the most recent legislation has hardly had time to have taken root, and may be plucked up with less danger now than hereafter.

"Let us now consider the effect of the proposed rule, as regards sailing vessels, and endeavor to ascertain whether its application to them is impracticable.

"We will refer again to Fig. 1, and say that X and Y are sailing vessels. Let X be by the wind on the port tack. Under the old rules she kept her course, and did not give way when Y was in the positions *a*, *b*, and *c*, or intermediate ones; but she has each of these ships on her port side, she therefore under the new rule, still keeps her course. While Y at *a*, *b*, or *c*, having X on her starboard side, keeps out of her way exactly as she used to do.

"The case of Y in the position *d*, being the rare case, was hardly determined under the old rules, and it is left undetermined still. X cannot do any harm by starboarding her helm, as such proceeding stops her way, and makes her a fixed mark for Y to avoid. Should she port her helm, Y at *d* must keep clear of her course. So that, by the new rule, a trifle more safety is gained than under the old.

"Should Y be in the position *e*, she is close-hauled on the starboard tack; so, under the old rule, X must give way to her. But Y at *e* is on X's starboard side, X must therefore act under the new rule, exactly as she would have done under the old. No ships can be in the positions *f* and *g*.

"So that, when a ship is close-hauled on the port tack, the new rule in no way disturbs the laws tradition has laid down for sailing vessels.

"Let X now be close-hauled on the starboard tack. No ship can be in the positions *a* and *b*; but let Y be in the position *c*—that is, close-hauled on the port tack—meeting X under the old rules, it is her duty to give way, and X's duty to keep her course. This arrangement is unaltered under the new rule, as Y is on X's port side. Should Y be in the position *d*, the exceptional case, the same remarks apply as when X was on the port tack. But we may add the observation here, that a ship close-hauled on either tack is practically stationary, compared with a ship free or under steam, and if the distance is small between the ships nothing she can do will make a collision much more or much less imminent than it otherwise would have been, so that Y at *d*, going free and unhampered by compulsory helm, is pretty safe to clear X close-hauled, whatever she does, X's movement to either side being altogether insignificant.

"Now suppose Y in either of the positions *e*, *f*, or *g*; under the old rules X would have kept her course, and Y would have got out of her way. But by the new rules it is X's duty to keep out of the way of Y, as she is on her starboard side. In this case we have a distinct opposition between the old and new rule, and it is therefore necessary to examine carefully as to the latter's operation.

"The speed of Y, in the positions *e*, *f*, or *g*, or going free, is so much greater than that of X, who is close-hauled, that if no steps whatever are taken to avoid collision, no collision in the cases before us can possibly occur; to make a collision possible, X must be nearer the point *o* than Y is. In other words, the ship close-hauled on the starboard tack runs no risk from a ship free keeping a steady course, unless she bears but little on the port bow of the free ship. If she is broad on the bow there is small fear of contact. Should X, therefore, from any cause neglect to obey the rule, and stand on as if to cross the bows of Y at *e*, *f*, or *g*, she must either be safe in doing so, as she is in the diagram, or she must make the danger so plainly imminent to Y, as to relieve her from the necessity of keeping her course.

"So it appears that the amount of danger likely to occur from a confusion between the old and new rules will not probably be great, and at all events not greater than it is at present. As if Y's position be a little nearer the course of X, that is between *e* and *d*, she will be 'nearly end on' to her, and X must throw herself in the wind or tack to avoid her, by Article XI.

"But suppose that X clearly understands the new rule, and knows that she must keep out of Y's way when in the positions *e*, *f*, *g*. She may either tack or back her main topsail, and remain perfectly safe. Of course it will be objected that a ship going free, and being able by a mere movement of the helm to alter her course either to starboard or to port, without touching her sails, should not compel a ship to undertake a manœuvre which requires the sails to be worked.

"But surely the safety of all classes of ships should not be made dependent in the smallest degree upon the convenience of one particular class of ships in one particular position.

"The question may consequently be put thus: whether it is better to have a simple rule whose defect is, that it obliges a ship to tack, throw herself in the wind, or heave-to under certain circumstances, where formerly she was not called upon to do so? Or to have a complicated rule, the only merit of whose complication is that it relieves the ships from acting as before mentioned? We ourselves have no hesitation in deciding in favor of the former course.

"Let us now suppose X to be free, say with the wind on either quarter. She keeps her course when Y is in the positions *a*, *b*, or *c*. If the wind is on the port quarter, Y is free in the positions *a* and *b*, as well as X, so that we do not interfere with the old rule. *c* is, however, close-hauled on the starboard tack, which makes the case that which we have just disposed of. If the wind is on the starboard quarter there can be no ship in the position *c*, and Y at *b* is then close-hauled on the starboard tack as *c* was before. In neither direction of the wind can there be a ship in the position *d*.

"If Y be in the position *e*, *f*, or *g*, X gets out of her way by the rule, which is for Y, at *e* and *f*, simply carrying out the old law, for they are the close-hauled positions when the wind is on X's starboard or port quarter; and for *g*, which is a free position, the rule is an additional guarantee for the security of both ships in passing.

"From this examination we gather that the new rule, as relates to sailing ships, is by no means impossible of application, for that, in point of fact, it follows out the traditional rule, except in one particular, that the tendency of the new rule in this one particular is to encourage—as a close-hauled ship will seldom bear up—checking a ship's way through the water to avoid fouling in preference to using the helm, which will be admitted on all hands to be desirable for every class of ships. That, therefore, whatever ideas may be formed of the convenience of applying such a rule, there can be no question of its safety.

"We have, lastly, to examine the bearing of the rule when applied to two ships, one of which is a steam and the other a sailing ship.

"First, let X be a sailing vessel close-hauled on the port tack, and Y a steamer in the positions *a*, *b*, or *c*. The steamer keeps out of the way of the sailing vessel X by the present law, and by the proposed rule does so also. If Y is at *d*, X's progress is so slow in comparison that, whatever he does, Y should have no difficulty in avoiding him. But the inference will be that X will do nothing—there being no law calling on him to act, and to do nothing is the best course for him under the circumstances.

"If Y is in the position *e*, X will act towards him under the proposed rule, as she would have acted under the old rule, had Y been a sailing vessel, which is a manifest simplification.

"It is only when Y is in the positions *f* or *g*, that the sailing vessel on the port tack is imperatively called upon to take steps to do what she has hitherto been excused from. But here again, from the difference of speed, the probability is that X must be very little on the bow of Y at *f* or *g*—or very much nearer the point *o*—to call for any change in X's movements. Such a position is so plainly dangerous that whether X tacks, heaves-to, or bears up, Y will be relieved of the necessity to keep her course, and she will, by a touch of her helm, pass on either side of an object which, before she reaches it, is very nearly right ahead. And after all it does not entail any very severe labor on X, to call on her to back her main topsail, so as to allow her neighbor to cross her bows.

"If X is on the starboard tack close-hauled, the old rules are unaltered for all steamers on her port side, it is now their business to keep clear of X's course, and the proposed rule leaves such arrangements untouched.

"If Y is in the position *d*, the circumstances are the same as when X was close-hauled on the port tack, and the same remarks apply.

"The existing rules are interfered with by the action of those proposed, when Y is at *e*, *f*, or *g*, but as the case is exactly similar to that where both ships are sailing vessels, and as the rules are interfered with in precisely the same manner, we need not here repeat what was then said.

"Lastly, let X be going free. The existing rules are not interfered with for any steamer on the port side. If Y be in the position *d*, they are altered to the extent that X would keep her course under the present rules, whereas by those proposed she may be called on to alter it. Were this not such an exceptional position as it is, there might be a loss of security by the action of the proposed rules; being so, however, the amount of security withdrawn is infinitesimal. The present law, again, would be altered by the action of the proposed rule, for every steamship on X's starboard side. But on this it may fairly be argued if X, under the old state of things, may be called on to give way to close-hauled ships on either tack, of whom she meets many, why should she not, when great general simplicity is gained, give way to steamers on her starboard side, of whom she meets few?

"We have thus concluded an examination of the action of the rule proposed, for all classes of ships in all positions where there is actually risk of collision if no rules were established.

"Let us now examine its effects where this risk of collision is only supposed, and does not really exist.

"There we may at once see we have gained a great step in advance. We have withdrawn all idea of risk of collision from the minds of those on whom our first rule is to act, and we simply say: 'You may pass all ships in a certain direction, but you must allow all ships in a certain other direction to pass you.' Again, risk of collision can only arise to any great extent on the starboard side, so that the field of possible error is only half as large as it is under existing rules.

"But suppose the person in charge of X, in Fig. 3, sees a ship Y, at or near the points *d*, *e*, *f*, or *g*, but cannot make out her course, under the existing rule he does not feel the obligation of distinctly making out Y's course before he alters his helm. It is quite sufficient for him to believe it possible that Y *may* be steering as she is in Fig. 1, to enable him to port his helm, as he considers that in any case it is Y's business to port also. And he may, and does in fact, constantly run into danger when there was previously none.

"But under the action of the proposed rule he is bound *first of all* to ascertain Y's course, because, until he has done so, he cannot act under the rule. Should he fail in ascertaining this he can only act on Rule III, which is in all cases a safe one, and can lead no ship wrong.

"There is, therefore, no temptation held out to ships to run into danger, as there is more or less at present, and so far the action of the proposed law will generally be acknowledged valuable.

"There are still some general considerations which appear to us to tell very strongly in favor of making the rule we suggest universal.

"It has always been held that ships under steam are to be treated alike, whether they have sail set or not. As the basis of the original rule of steamers getting out of the way of sailing vessels was the great facility for doing so, supposed to be possessed by the former, it must have been imagined that having sail set made no practical difference in a steamer's handiness.

"But every seaman knows that heavily rigged steamers with square sails set act practically as sailing vessels, and the power their steam possesses over their sails is but slight in strong winds. Few steamers can steer with their square sails aback. The larger and newer classes of men-of-war, when acting with fleets, are commonly found with sails set and very low steam, enough to put them under command, but certainly not enough to give them greater manœuvering facilities than the most ordinary sailing merchant ship. So that a steamer may find herself credited with facility of manœuvering which she practically has not, and the action of a rule based on this false supposition may turn to evil.

"Again, many screw steamers, with square sails set, are in no degree different in appearance from sailing vessels. If, in the day time, the smoke is not visible, which it often is not, there is sometimes little to show an approaching vessel to be under steam. In men-of-war there is nothing, as they become steam and sailing vessels alternately two or three times in the same 24 hours. Nor is the smoke with them any guide, as nothing is more common than to keep the fires alight while the screw is out of the water.

"Now it should be clear enough that if the rules are framed in such a manner as to make it imperative for X to get out of Y's way if she is a steamer, but equally imperative for Y to get out of X's way if she is a sailing vessel, each must have the clearest possible indications of the other's class. This clear indication we have shown does not always exist in the day time. At night, however, steamers are specially distinguished by the masthead light. But it is not a little strengthening to our argument for doing away with the difference between rules for sailing and steamships, to reflect that, just at the very time when a steamer is most likely to be mistaken for a sailing vessel, her special distinguishing mark is most likely to be hid by her sails.

"On the whole, then, we think the convenience and safety of shipping will be best consulted by making one 'Rule of the Road' at sea, for all classes of ships.

"Before quitting the subject of our first rule, we must not omit to state, and meet, the strongest objection to its terms we have yet found. It is contained in an address of Dr. Lushington to the Elder Brethren in the case of the Josephine Willis *v.* the Mangerton, (1856,) and is in the following words:*

"'You are not to scan too nicely how the ships bear from each other, but if there is any probability of a risk of collision, the statute' (porting the helm) 'ought to be obeyed. I am sure that all our experience teaches us that this was a very wise rule and regulation, because we constantly have conflicting evidence as to whether a vessel was on one bow or the other, or two points on one bow or the other.'

"Now the utterance of so distinct a condemnation of any attempt to make what we have chosen, the basis of a law, by the learned Judge of the Admiralty Court demands at our hands the gravest and most careful consideration. Having given it such consideration, we think that great authority himself would not be slow to admit, on a review of his dictum, that he has stated in the first sentences of the passage that which fully explains the last.

"If the law at that time directed seamen 'not to scan too nicely how the ships bore from each other,' how could there be anything but 'conflicting evidence' on that particular point? And have we thereon the smallest ground for doubting that, if the law enjoined attention to that point, 'conflicting evidence' would only exist so far as interest or carelessness produced it?

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* See Appendix I.

"But the question is one for seamen alone, which, with all due respect, we should withdraw from the decision of the Admiralty Court. We do not care to determine what difficulties may exist in the production of conclusive evidence; but it is most necessary to know distinctly what difficulties exist in the determination of which bow a ship appears when first sighted. This question we leave to practical seamen to answer; we ourselves believing that the bearing of any object from a ship either by night or day, in reference to the line of keel, can be ascertained at a glance, with sufficient accuracy by any seaman of ordinary intelligence.

"Up to this point we have dealt solely with what appeared to us the reason of the thing, and have founded our arguments entirely on what might be supposed from a consideration of the circumstances attending maritime traffic. We should not establish our position completely unless we showed that, according to the evidence of impartial witnesses, existing facts, and the reported circumstances under which ships meet, pass, or come into collision, were in harmony with our deductions from a different set of data. If an examination of reliable evidence should show our views to be incorrect, there is an end to the question so far as we are concerned. If, however, such an examination shows an agreement between our suppositions and reported facts, our case for an alteration of the law becomes so strong, that there remains no excuse for the retention of a statute so faulty and dangerous. Should, however, the only evidence obtainable exhibit such discrepancies as to justify any doubts respecting the side towards which it leans, we should claim the benefit of that doubt in our own favor on the score of our previous reasoning.

"Acting on these views, we have been at the pains to examine the whole of the collision cases tried in the Admiralty Court which occurred between 1854 and 1864, and we submit an abstract of those which are relevant to the points at issue in the Appendix.

"We should premise that the evidence supplied by the Admiralty Court records requires the most careful sifting before its lessons can be extracted and applied. In many of those cases where a casual glance would lead to the supposition that valuable data might be gleaned, there is found an absolute opposition of evidence on the primary elements for determining the facts of the case. The learned Judge of the Admiralty Court has constantly remarked on this point, both in his judgments and his addresses to the Elder Brethren, and we regret to add our fear that conflicting evidence is the rule rather than the exception in that ancient court of law. Our table has been compiled from the Preliminary Acts of the opposing parties, checked by an examination of the evidence and the judgment of the court whenever important discrepancies appear in the two documents.

"A slight scrutiny into the data furnished by the table will sufficiently confirm what we have stated above. There are, according to our table, 51 cases, or 25 per cent. of the whole (which we classify as 'doubtful') where either the courses steered are irreconcilable with the relative positions stated to be held by the ships, and therefore no reliable hypothesis can be framed, as in Case 11; or where, as in Case 89, the ships might have met as stated, but could not by any possibility have come into collision had they afterwards acted as described. We are not concerned here to investigate the causes which produce these irreconcilable discrepancies; the remarks of Dr. Lushington show them to be various; we ourselves believe that much is due to the divergent ideas respecting what constitutes 'risk of collision,' and to the fact that, whilst the court requires for its decisions specific information on certain niceties in the situation of the ships and their bearings from each other, no hint of such requirements occurs in the statute. So that we are not necessarily compelled to place the contradictions exhibited, except, perhaps, a small minority, down to wilful misstatement.

"But, on the other hand, our table contains a large number of cases where no material discrepancies exist, where the positions of the ships are well ascertained and where the steps taken by each clearly brought about the collision.

"Before proceeding to separate the doubtful cases from the rest, the table may be dealt with as a whole in respect of the courses stated to have been steered by the different ships on sighting each other.

"There are so many checks on any considerable error here, and so few circumstances tending to misstatement, that the columns containing this matter may be assumed correct.

"Turning, therefore, to the summary given at the end of the table, we find that omitting exactly opposite courses, to be mentioned presently, there are 79 cases of collision where the paths of the two ships crossed at an angle of two points and under, against 78 cases where the angle was greater than two points. The important lesson to draw from this fact is, that allowing the first class to include all those cases covered by the terms 'meeting nearly end on,' in Articles XI and XIII of the existing law, and the second, those covered by the terms 'crossing,' in Articles XII and XIV; then it appears that the importance of the two laws is equal, relatively to the number of cases they each govern.

"Consequently (supposing that each law is equally good for its own cases) compulsory port helm cannot be supported on the ground of its applicability to a majority of circumstances.

"The cases where ships meet 'end on' steering exactly opposite courses, might possibly be found numerous enough to swell the 79 cases of 'nearly end on' to something like a majority; but it appears on examination not possible to assert distinctly that even *one* such case occurred out of the 202 tabulated, and there seem to be only about three out of the 27 cases of opposite courses where it was even probable the ships met 'end on.' These are most valuable conclusions to establish by statistics, for they confirm the truth of our earlier reasoning, and show that at least no more injurious results can flow from making the rule given in Article XIV universal, than have already flowed from the practically universal application of the rule in Article XIII.

"To proceed with the examination of the table, the summary shows that there are 51 cases so doubtful as to render them useless for our purposes.

"This leaves 151 cases for such classification as may appear most suitable.

"To bring about risk of collision between two moving ships, they must either approach one another on the same line from opposite directions, or their respective courses must cross at some point ahead of both. In the former case time has nothing to do with establishing the risk, as, no matter what their relative speed may be, their courses, if unaltered, sooner or later lead to collision. In the latter case, the element of time is an important one, as, unless the two ships be equally distant, in respect of time, from the point of intersection of their courses, they cannot come into collision. This consideration shows that unless the bearing and distance apart of the ships, their relative speeds, and the exact moments at which they respectively altered their helms, can be accurately stated, there must remain a considerable number of cases where neither the amount of risk, nor the propriety or otherwise of the steps taken to avoid it, can be determined. There are, again, many cases where, either from fog, or bad look-out, the ships do not sight one another at all, until too late for any steps to be available. In point of fact, these classes, with some minor ones, form a group of 65 cases, which it is necessary to extract from our table under the head of 'Cases not classified.' An examination of any single case, such as 22, 35, or 38, will sufficiently disclose the nature of these cases, and the impossibility of deriving from them any data of value relative to the effect of the law.

"It is not, however, without a certain significance that in these non-classified collisions the use of port helm is claimed in 92 instances, whilst starboard helm is claimed in only 23.

"An examination of the remaining 86 cases, reveals the startling fact

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NOTE.—The Admiralty Court having decided by its judgment of February 1, 1867, that the Osprey was justified in the course she pursued, and that the collision was entirely due to the Amazon, we can only add that if anything were wanted to arouse the community to a sense of the dangerous state of the law, this decision should do it.

that there was no original risk of collision in 31 of them, and that while starboard helm can only be said to have brought about first the risk and then the collision in 2 of these cases, port helm is left responsible for 25.

"The inference here, as against the law, is strongly in favor of the supposition that port helm was used in doubt, to be on the legally safe side.

"It appears again that while starboard helm can only be called improper in 13 cases, port helm appears to have been improper in 53.

"It must be understood that in speaking of a movement being improper, we refer in no degree to the legal aspect of the case, and consequently it will in many instances be found that the Admiralty Court rightly condemn the one ship, while we, from our point of view, as justly condemn the other. What we understand by an improper movement is when a ship takes any steps leading her *across the bows* of another.

"Legally this is often the right step, because of the assumption that the other ship will take a similar one. But in speaking of what is proper to be done by one ship when there is risk of collision with another, the only sure ground is to assume no change in the other's course. In our summary, therefore, we have set down port or starboard helm as improper, (1) when there was no original risk, and (2) where there is risk and the helm used increases it. Comment on the fact that out of 86 cases of collision, obedience to the law of port helm assisted to bring about 54, while disobedience to it only acted injuriously in 13, is perhaps needless. Explanation may be offered rendering the plain inference less valid, but as we have been unable to discover any, we are bound to assume the facts to be altogether confirmatory of our views.

"It is, perhaps, a more delicate task to appeal to those collisions of recent occurrence which have been the proximate cause of our publishing this treatise, and which, while they have been made the subject of special inquiry, may yet come for decision before the Admiralty Court. But we do not think we should omit these cases from our review, more especially as some of them form such excellent illustrations of the action of the law.

"Let us take first the case of the Amazon and Osprey. The long and patient inquiry by court martial elicited perfectly intelligible and, with a small exception, consistent statements of facts from both sides, which leave little to be desired for our purposes.

"The two ships sighted one another several miles apart on a clear, fine night, at least twelve minutes before the collision. The Osprey first sighted the Amazon's masthead light a little on her port bow, and soon afterwards the Amazon sighted the Osprey's masthead light a little on her starboard bow. The Osprey was steering E. by S., and the Amazon W. $\frac{1}{2}$ S., so that the two paths would intersect at some point south of both ships and between them. Whether there was risk of collision at this point of intersection depended on the distance apart of the ships and their relative speeds, considered with reference to their bearing from each other. As only the last of these necessary elements could be accurately obtained, it was, strictly speaking, open to either party to assume or repudiate the binding action of the law, while at the same time we must remark that the chances were many thousands to one *against* a risk of collision in such a case, were no change of course made by either party.

"The Amazon starboarded her helm for reasons beyond the scope of the statute, and brought the Osprey broad on her starboard bow. The latter, having previously ported a little, distinctly saw the change in the Amazon's course, and knew she was on her starboard bow; then, in compliance with the common interpretation of the statute, and in a fancied security engendered by the supposed legality of the proceeding, she continued to make with small port helm a long sweep across the Amazon's bows! At length the inevitable catastrophe, which the conduct of both ships had led up to, occurred, and resulted in the destruction of two valuable ships and several lives.

"We are happily spared the necessity of balancing the blame in this case; that to be borne by the man-of-war has been decided by a competent tribunal, and that to be borne by the merchant ship will doubtless be apportioned by the Admiralty Court. What we are concerned with is the action of the law, and the determination of whether it be not a *particeps criminis* in the matter. For the sake of argument we may allow that there was risk of collision in the first instance, and that the law was therefore broken by the Amazon.

"Would a perfect law leave a ship in the Osprey's position without distinct guidance in such a very ordinary contingency? The Amazon we saw put her helm to starboard for reasons out of the view of the law. These reasons may have been good or bad, we are only concerned to point out that the change of the Amazon's course noticed by the Osprey might have been unavoidable without any reference to the Osprey herself—for instance, to clear a group of fishing boats. If, therefore, the law obliged the Osprey to keep her helm to port, it forced her to do that which led in the surest possible way to danger, and its action was altogether evil, being a main cause of the collision.

"If, on the other hand, it did not so call upon her to keep her helm to port, what other guidance did it furnish? It gave her the option, if she objected to the dangerous performance of running across the Amazon's bows, of considering herself under Article XIV of the Steering Rules, and as 'crossing' instead of being 'nearly end on' to her.

"Under this Article she might have maintained a steady course and left it to the Amazon to clear her. But she had no certainty whatever that the Amazon would feel herself also under Article XIV. It was quite possible that she might at any moment put her helm to port, in a late obedience to Article XIII; then, if the very probable contact between the ships occurred while the Osprey was under starboard helm coming up to her course, and the Amazon under port helm, turning to starboard, there was the very justifiable fear of condemnation in the Admiralty Court.* So that, practically, the law left the unfortunate Osprey with a choice of risks. The single risk of being run down under port helm, or the double risk of being run down first and afterwards condemned in the Admiralty Court.

"We leave out of consideration, for obvious reasons, the action of Article XVI in this case, the more so as we propose to retain it.

"On the other hand, the Amazon was placed in the same predicament until the risk of collision became too imminent for any steps to avert it. Should she at any moment reverse the error we supposed she had committed, and port her helm in obedience to Article XIII, there was the obvious consideration that she had already given her approaching neighbor every reason for putting herself under Article XIV, and that persistence, in even a wrong course to the end, would probably be a clearer guide to her than a display of wavering intentions.

"We may fairly ask whether, on a dispassionate review of the action of the present law, on this single case, it is not found wanting in the chief elements which should render it valuable?

"If we apply our proposed rule to its case, we shall see a very different state of things revealed, leaving the fair inference that no collision would have occurred under a similar law. We may suppose the Amazon starboarding her helm in this instance also, for we assume the law had nothing to say to that movement on her part. The Osprey, it is evident, would never have altered her course at all, for she sighted the Amazon on her port bow. But even had she, in disobedience to the law, ported her helm at first, she would certainly have come back to her old course, or steadied her helm on seeing the Amazon's green light, for the danger of collision and of condemnation by the Admiralty Court were both incurred by the use of port helm, in either case the ships must have passed miles clear of each other. Nor, it is important to observe, could there have been the smallest hesitation consequent on a doubt of the other ship's action. The law prescribed a perfectly distinct rule for each ship, about which it was impossible there could be a difference of opinion.

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* *Captain Key.*—"When, from your losing sight of the red light of the Amazon, and the green coming into view, it was evident the Amazon's head was turning to port, do you consider it right to keep the Osprey's helm a-port?" *Captain Bartridge.*—"Certainly, for if I had shifted my helm a-starboard I should have been considered to blame and very justly."—***Proceedings of Amazon's Covrt-martial.***

"The next case we have to remark on is that of the Haswell and Bruiser. Here again the Board of Trade inquiry furnishes us with a fairly reliable statement of the circumstances leading to the collision.

"The Haswell was steering N.E ½ N. on a clear night. She sighted, on the port bow, the masthead light of the Bruiser which was then steering S.S.W. ½ W., probably exposing her green light, although it was invisible to the Haswell from the distance. About the same time a faster steamer than the Haswell (the Grenadier) passed her, and drawing near the Bruiser caused her to port her helm, thereby exposing her RED light to the Haswell, which the latter saw and, in presumed obedience to the 'Rule of the Road,' ported her helm, bringing the Bruiser a couple or points on her port bow. The Grenadier having passed, the Bruiser was brought back to her old course, thus bringing the Haswell a little on her starboard bow, where she was immediately seen by the person in charge of the Bruiser. For reasons unconnected with the steering rules, the Bruiser's helm was put more to starboard, so that the two ships were running directly into danger, each bearing two points on opposite bows. The danger was observed by the master of the Haswell, there was imminent 'risk of collision' and he put her helm hard a-port, striking the Bruiser amidships and sinking her with many passengers. The Bruiser had also discovered the danger and had, in opposition to the law, put her helm hard a-starboard. Regarding these final movements there is this to be said: The officer of the Haswell was made fully aware that a steamer on his port bow was turning to port so as to cross his path. Clearly the proper method of avoiding collision was either to stop dead, or to turn to port also, but this latter involved a direct contravention of the statute. As it seems certain the Haswell was on the Bruiser's starboard bow previous to the change of helm, turning to starboard was the most dangerous step which could be taken, but the event proved it was in accordance with the law. It is, however, quite possible that, where the danger is so very imminent, the power of the law becomes small, and action is taken on an estimate of present circumstances only, so that, although we cannot omit to notice that obedience to the law did in this case ultimately act destructively, it is more important to observe whether the law had any share in bringing about a state of things which made danger so imminent. Our case, viewed in this light, is not so strong as in that of the Amazon, and rests on the probability that, had the Haswell not ported in the first instance, the change of course of the Bruiser, noticed by the Haswell, would have taken place either ahead or on the starboard bow of the latter ship. In neither case would there have been risk of collision, nor perhaps even dangerous proximity of the ships. In any case the law was clearly wrong in suggesting port helm on seeing a steamer's *red* light only, on the port bow, because it was an unnecessary movement, an attempt to avoid a danger which did not exist, and, therefore, liable to lead to further complications, especially amongst crowded shipping.

"Applying now the proposed rule to the circumstances of this case, we may observe that if the proximate cause of collision was the first change of course by the Haswell, and the ultimate cause, the last porting of the helm, acting in combination with a dangerous and illegal movement on the part of the Bruiser, then, under the proposed rule, the Haswell would have been bound to avoid the first error as well as the second, and would have been restricted to the stoppage and reversal of her engines alone, which could by no possibility have increased the danger, and might have avoided it altogether.

"The next case worthy of remark is the sinking of the schooner East Cornwall by the steamer Cobden, which also resulted in loss of life, and which, if there be any virtue in evidence, or any truth in legal decisions, is as distinctly due to the action of the law of port helm as its greatest opposers could wish. The value of this case is, that there is on neither side a controverted point, the facts are clearly established, and, moveover, a competent tribunal has decided that the steering rules were obeyed.

"The facts are simple, and may be stated in few words: The East Cornwall was hove-to and, therefore, motionless. She had her port side turned towards the Cobden, and was seen on the latters *starboard* bow three or four minutes before the collision. Under such circumstances the Cobden put her helm hard a-port and ran over the unfortunate victim in obedience to the law. We say in obedience to the law, for the verdict of the legal tribunal which tried the case is, that 'the mate of the Cobden acted promptly by putting his helm a-port and hard a-port,' and credit is given him for such promptitude. Now, under the circumstances of these two ships, it is plain that as a change of course to starboard brought about a collision with a stationary object, either no change of course, or a change to port, would have avoided the danger. The law, therefore, is alone to blame for this catastrophe, in that it justified the officer of the Cobden in himself creating the danger.

"The safety of our rule when tested by this case is very plain. The Cobden could not have legally altered her helm until she had ascertained the situation of the object sighted on her starboard bow. If in any doubt, her only legal method of avoiding danger was stopping and reversing the engines. If she acted free of the law, the use of starboard helm—as in the case of the Amazon and Bruiser—was the natural means to give a wide berth to a doubtful object on the starboard bow. In no case would any man in his senses turn *towards* a ship whose situation was undetermined, unless the law suggested such a course.

"It is clear, therefore, that a collision would have been a very remote contingency had the Cobden and the East Cornwall been subject to our first rule.

"The last case to which we have to advert is the most serious in loss of life, but which, happening in the Red Sea, did not attract so much attention as similar disasters at home. This is the case of the Nada and the Bhima steamers, which resulted in the total loss of the latter, with 79 lives.

"Not having the detail of the evidence produced before the court of inquiry at Aden, we are constrained to take the published judgment of the court as determining the facts of the case. We must quote this document at length, as it contains an extraordinary though unwitting condemnation of the law of port helm, and an equally decisive testimony to the value of a law such as we advocate.

"'After a careful consideration of the evidence produced, it appears to the Court that the master of the Nada, on sighting the Bhima's light, paid due attention to the orders in force on the subject of steam vessels meeting at sea, in that he at once ported his helm on ascertaining that a steamer was in sight, and brought her to bear about two points on his port bow, and then steadied the helm, and that, further, upon a nearer approach, when the steamers were nearly end on to each other, and about 600 yards apart, he put his helm hard a-port, and naturally expected that the other vessel would have done the same, but she, on the contrary, appears from the evidence to have kept steadily on her course, and at this juncture suddenly to have put her helm hard a-starboard, thereby rendering a collision inevitable.

"'Seeing the Bhima attempting to cross his bows, Captain Hanscom would appear to be justified in having put the Nada's helm hard a-starboard also, as being his only apparent chance of clearing the ship; and, consequently, the Court is of opinion that the cause of the collision is entirely attributable to the Bhima not having been steered according to the Rules of the Road.'

"From this judgment it appears that there was originally no real risk of collision, because the Bhima did not alter her course at all until a dangerous proximity had been brought about by the Nada's change of course to starboard, and, therefore, had this change not taken place no danger could have arisen. If, as is believed, the courses of the two ships were originally nearly parallel, then they were well clear, on one another's starboard bow in the first instance. It also appears that there was legal warrant for assuming a risk of collision sufficient to put the law of port helm in force. Had there been no law, it is not possible to conceive the Nada acting as she did, running into needless danger on the remote supposition that the other ship would avoid it. If, therefore, as we are bound to assume, the movement of the Nada was in accordance with the law, and would have been an unreasonable movement had there been no law, there is no escape from the conclusion, that the law is responsible for the disaster which befell the Bhima.

"Had the Nada been bound by our proposed rule she could not legally have made the change of course at all. It was a change across the path of a ship, only to be justified by the understanding that the latter would not pursue it. The understanding established by our rule is that the ship to be avoided *will* pursue whatever path she may be following at the moment. No use of the helm whatever by the Nada could be justified until the Bhima's course and situation had been ascertained, and had they been so ascertained the absence of necessity for any change of course would have been disclosed.

"We have now closed our examination of the actual effects of the law of port helm on reported cases, together with the probable effect on the same of that law which we propose as a substitute, and we think that we may claim that fact as well as argument lies in our favor. There is, however, a large class of practical men, for whose opinions we have the highest respect, but who, if they honor us with their attention, will object to most of our argument on the score of its minuteness, and also because we have dealt so largely in probabilities. Our answer to such objectors is that in so complex a matter, a right judgment cannot be arrived at except by a rigid analysis of details; that we have only dealt with probabilities where firmer ground was denied us; however, we may assert our conviction that had the question been fully argued out twenty years ago, we should have had a rule of the road commanding the respect, as well as the obedience of the maritime world, and not requiring five alterations to produce final dissatisfaction.

"We shall be also met by the objection that, admitting the rule of compulsory helm assisted to bring about collision in certain quoted cases, these may be exceptions, and the fact may be that the law averts collisions in a large majority of cases not produced. To this we reply that no *facts* are available on either side of the argument. We must trust to an examination of probabilities, which we assert and have attempted to prove, lie against such a supposition.

"It only remains to touch lightly on those necessary additions to the leading rule,* which must always be attached to whatever laws are established.

"As rules originally drawn up for the guidance of steamers in rivers and narrow channels are inapplicable to the open sea, so rules which are framed in view of the circumstances of the open sea, are inapplicable to rivers and channels.

"We discover a violation of the first of these principles and an admission of the second in the steam rules of 1846; we also observe a neglect of the second or converse axiom in the latest statute. The former steering rules supposed that ships ordinarily met in the open sea, under circumstances similar to their meeting in rivers, the latter seem to infer that ships meet in rivers under circumstances so analogous to those of the open sea that no special guidance is necessary.

"A very few reflections will convince us of the impropriety of this idea. The elements available to guide a ship meeting another in the open sea, are only her own position and a more or less accurate estimate of that held by the other. In rivers and narrow channels, there is a third fixed and common element capable of accurate estimate by both parties, in the shores which bound the belt of water. If no account be taken of the presence of these shores by the law, it will become in many cases impossible to obey it, and its force by so much will be weakened. Again, if the shores must in any case be taken into account, it is evidently preferable to frame the rules in terms only involving their position which is known, and that of the ships to be guided by them which is also known; and to neglect any mention of the ship to be avoided, seeing that she is at the best but an uncertain guide. These considerations lead us naturally to the establishment of our second rule.* We may further observe that the establishment of such a rule does not abrogate the action of the first rule in cases where, from neglect or other causes, the second rule has not been obeyed; it is a special guide prepared on the supposition that ships' courses in rivers are usually parallel, as far as possible to prevent ships in confined spaces placing themselves in positions where obedience to the first rule is expedient, but difficult to carry out.

"Our third rule embraces all cases of doubt, and prescribes the course which is at least the most desirable to encourage under such circumstances. Such a rule has not yet been binding, except on steamers, but it is evidently quite as necessary for sailing vessels.

"The fourth rule is a modification of Article XIX of the present law. It is a necessary adjunct to any rules which may be framed, in order to provide against the dangers arising from negligence on the part of one ship, and also for the dangers arising from rocks or shoals. Such a rule is more than ever important when one ship of two meeting is bound, under ordinary circumstances, to maintain a straight course. It may be legally right to run over Y which is attempting wrongfully to cross X's bows, from port to starboard, but it would be morally wrong.

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* See Appendix H.

"Rule I would certainly clear X in the Admiralty Court, but Rule IV would keep him out of the Court altogether.

"Rule V is a simple transcript of the saving clause inserted in Article XX of the present rules.

"In taking leave for the present of this subject, we must acknowledge our consciousness of many defects in our treatment of it. We can only claim to have made an honest endeavor to furnish something like a distinct basis for the consideration of the rule of the road at sea in its various aspects. We began to study the question with perfectly unprejudiced minds, and if it be now true that we are committed to certain clearly defined ideas on the whole matter, we trust it may be conceded that those ideas are not altogether unreasonable.

"But on those to whom it properly belongs to act, or decline to act for a change in the law so recently made binding in almost every quarter of the globe, we would urge our conviction that the rules regulating traffic on the high seas require immediate attention. The mass of the maritime population are dissatisfied with them, and have been so for years, and if it be true that the law of compulsory helm is a mistake, the sooner that mistake is rectified the better for the commerce of the world, and the safety of life at sea."

APPENDIX A.

"*Report of the Royal Commissioners appointed to inquire into the Laws and Regulations relating to Pilotage*, 25*th February*, 1836.

"Another subject which has engaged our attention has been the frequent accidents that have of late occurred from steam vessels coming into collision with other vessels, and it appears that from the recent introduction of this mode of navigation no defined rules have been adopted to guard against such occurrences.

"A select committee of the House of Commons was appointed in the year 1831, to consider the question of steam navigation, and the numerous accidents arising from the employment of steam vessels. This branch of the subject came under their consideration, and in the report which they laid before the House they expressed their opinion of the necessity of establishing some regulations, which they briefly suggested; these, however, have never been adopted, and the evil continues to increase.

"With sailing vessels, the rule which has been laid down and admitted in courts of law, viz: that when two vessels meet upon contrary tacks, the one on the larboard tack shall bear up, and that upon the starboard tack shall keep her wind, has been attended with the best effects.

"We are aware that the same rule is not strictly applicable to steam vessels, and that there exists great difficulty in treating a subject involving the varying nature of the circumstances in which steam vessels are placed in *a river*, as regards the state of the tide, the depth of water in *the river*, the draught of water of the steam vessels, and particularly the more or less crowded state of the river, from the number of other vessels in motion, and their relative positions. But rules upon this subject have been laid down and are enforced in the Frith and River of Clyde; and we consider it of the highest importance that some 'rule of the road' should be established, to be acted upon whenever circumstances will admit. We therefore annex to our report (Appendix B,) a set of rules which have been laid before us, and which, we think, may be adopted with advantage."

APPENDIX B.

"I. In the Thames and in all rivers and channels of the United Kingdom, and in all cases of wind, weather, and tide, steam vessels are to endeavor to keep on that side of the river or channel which lies on their starboard hand.

"II. When two steam vessels are standing on contrary or nearly contrary directions, if their courses should lead them near each other, each vessel shall keep towards the starboard side of the river or channel, and thus leave each other on the larboard hand.

"III. Whenever a steam vessel may have to meet or cross the course of a sailing vessel or of a rowing boat, the steamer shall in all cases yield to the sailing or rowing vessel, whatever may be state of the wind, weather, or tide.

"IV. In passing any small rowing or sailing boat, every steam vessel shall, if necessary, slacken or stop her paddles, so as not only to prevent the danger of a too near approach, but even so as to avoid giving them any just cause of alarm.

"V.. Although a vessel propelled by steam, in any of the above cases, may also have had recourse to the assistance of her sails, this circumstance shall in nowise alter the foregoing restrictions; for otherwise she would only have to hoist some small sail to evade them.

"VI. All these regulations shall be equally in force at night as well as by day. And for their more effective execution at night every steam vessel, when in pilotage water, shall carry, between sunset and sunrise, three sufficiently strong lights in lanterns, so as to be seen in all directions, and attached to a yard which must be kept square, and raised at least six feet above the tops of the paddle boxes. This yard may be attached to the mast, or otherwise raised to the requisite height above the vessel's bow for that purpose.

"VII. These three lights shall be arranged in the following manner: One light on each yard-arm, at the distance of six feet from the mast, that is twelve feet apart: and on the larboard yard-arm one additional light, which shall be placed horizontally with respect to the other light, or vertically under it, according to the following conditions:

"1. All steam vessels which may be coming up any river or channel shall show the additional light three feet directly under the light at the larboard yard-arm.

"2. All steam vessels which may be going down any river or channel shall show the additional light at the same height as the two other lights, and at the distance of three feet inside of the larboard light, or half way between it and the mast.

"VIII. For any infraction of the foregoing regulations a fine, varying according to the culpability of the offender, but not exceeding five pounds, should be summarily levied upon the party; and, as the only means of making these regulations effectual, one-half of the fine should be payable to the common informer."

APPENDIX C.

"*Act for the Regulation of Steam Navigation,* 9° *and* 10° *Victoria, cap.* 100, 28*th August,* 1846.

"IX. And be it enacted, that every steam vessel, when meeting or passing any other steam vessel, shall pass as far as may be safe on the port side of such other vessel; and every steam vessel navigating any river or narrow channel shall keep as far as is practicable to that side of the fairway or mid-channel of such river or channel which lies on the starboard side of such vessel, due regard being had to the tide, and to the position of each vessel in such tide; and the master or other person having charge of any such steam vessel, and neglecting to observe these regulations, or either of them, shall, for each and every instance of neglect forfeit and pay a sum not exceeding fifty pounds."

APPENDIX D.

"*An act amending the Laws for the Regulation of Steam Navigation of* 28*th August,* 1846, 14° and 15° *Victoria, cap.* 79, 7*th August,* 1851.

"XXVII. Whenever any vessel proceeding in one direction meets a vessel proceeding in another direction, and the master or other person having charge of either such vessel perceives that if both vessels continue their respective courses they will pass so near as to involve any risk of collision, he shall put the helm of his vessel to port, so as to pass on the port side of the other vessel, due regard being had to the tide and to the position of each vessel with respect to the dangers of the channel, and, as regards sailing vessels, to the keeping each vessel under command; and the master of any steam vessel navigating any river or narrow channel shall keep as far as is practicable to that side of the fairway or mid-channel thereof which lies on the starboard side of such vessel; and if the master or other person having charge of any steam vessel neglect to observe these regulations, or either of them, he shall for every such offence be liable to a penalty not exceeding £50."

APPENDIX E.

"*The Merchant Shipping Act,* 17° *and* 18° *Victoria, cap.* 104, 10*th August,* 1854.

"296. Whenever any ship, whether a steam or a sailing ship, proceeding in one direction, meets another ship, whether a steam or a sailing ship, proceeding in another direction, so that, if both ships were to continue their respective courses, they would pass so near as to involve any risk of a collision, the helms of both ships shall be put to port, so as to pass on the port side of each other; and this rule shall be obeyed by all steamships and by all sailing ships, whether on the port or starboard tacks, and whether close-hauled or not, unless the circumstances of the case are such as ro render a departure from the rule necessary in order to avoid immediate danger, and subject also to the proviso that due regard shall be had to the dangers of navigation, and, as regards sailing ships on the starboard tack close-hauled, to keeping such ships under command.

"297. Every steamship, when navigating any narrow channel, shall, whenever it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such steamship."

APPENDIX F.

"*Report of Select Committee of the House of Commons on Merchant Shipping, 7th August*, 1860. *Page* 28.

" 'Rule of the Road.'

"The question of the 'Rule of the Road,' and of an international system of lights at sea, when vessels meet each other, deserves, however, particular attention.

"This section in the act as it stands at present, is most unsatisfactory, however the decision of our Courts of Admiralty may have modified its dangerous tendency. The evidence given is conclusive that some change in the existing regulation is necessary; and your committee expresses a hope that the Board of Trade will take steps to move the Foreign Powers, with a view to the adoption of some common system, founded upon general practice and professional experience; and that our law may be altered accordingly."

APPENDIX G.

"*The Merchant Shipping Act Amendment Act*, 25° *and* 26° *Victoria, cap.* 63, 29*th July*, 1862; *Section* 25, *Table C, and Regulations for Preventing Collisions at Sea, issued in pursuance of an Order in Council dated* 9*th January*, 1863.

"Preliminary.

"Art. 1. In the following rules every steamship which is under sail, and not under steam, is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

"*Steering and Sailing Rules.*

"Art. 11. If two sailing ships are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other. Two sailing ships meeting.

"Art. 12. When two sailing ships are crossing so as to involve risk of collision, then, if they have the wind on different sides, the ship with the wind on the port side shall keep out of the Two sailing ships crossing.

way of the ship with the wind on the starboard side, except in the case in which the ship with the wind on the port side is close hauled and the other ship free, in which case the latter ship shall keep out of the way; but if they have the wind on the same side, or if one of them has the wind aft, the ship which is to windward shall keep out of the way of the ship which is to leeward.

Two ships under steam meeting.

"Art. 13. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

Two ships under steam crossing.

"Art. 14. If two ships under steam are crossing so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.

Sailing ship and ship under steam.

"Art. 15. If two ships, one of which is a sailing ship, and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing ship.

Ships under steam to slacken speed.

"Art. 16. Every steamship, when approaching another so as to involve risk of collision, shall slacken her speed or, if necessary, stop and reverse; and every steamship shall, when in a fog, go at a moderate speed.

Vessels overtaking other vessels.

"Art. 17. Every vessel overtaking any other vessel shall keep out of the way of the said last-mentioned vessel.

Construction of Articles 12, 14, 15, and 17.

"Art. 18. Where, by the above rules, one of two ships is to keep out of the way, the other shall keep her course, subject to the qualifications contained in the following article.

Proviso to save special cases.

"Art. 19. In obeying and construing these rules, due regard must be had to all dangers of navigation; and due regard must also be had to any special circumstances which may exist in any particular case rendering a departure from the above rules necessary in order to avoid immediate danger.

No ship, under any circumstances, to neglect proper precautions.

"Art. 20. Nothing in these rules shall exonerate any ship, or the owner, or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case."

APPENDIX H.

"*Proposed Rules.—December*, 1866.

"I. When any two ships intend to pass or cross near each other, that one which has the other on her own *starboard side*, shall keep out of the way of that other; and that ship which has or brings the other on her *port side*, shall keep a *steady* course until all danger of collision is past.

"II. Every steam vessel, and every sailing vessel with the wind free, navigating any river or narrow channel, shall keep, as far as is practicable, on that side of such river or channel which lies on the *starboard side* of such vessel.

"III. Every ship, when approaching another ship so as to involve risk of collision, shall check her way through the water, or, if a steamer, and it is necessary, stop and reverse; and every ship shall, when in a fog, go at a moderate speed.

"IV. Nothing in these rules is to be construed as binding ships to obey them, when such obedience will plainly lead to immediate danger.

"V. Nothing in these rules shall exonerate any ship, or the owner, or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case."

APPENDIX I.

"*Extract from Address of Dr. Lushington to Elder Brethren, in the case of the 'Josephine Willis'* v. *the 'Mangerton.'*

"'I am under the necessity * * * of * * * stating to you * * * * * what I believe to be the true interpretation of the 296th section (of the Merchant Shipping Act, 1854.) This statute is more comprehensive, and proposes to impose more restriction than any previous Act of Parliament. "Whenever any ship, whether a steam or a sailing ship, proceeding in one direction, meets another ship, whether a steam or a sailing ship, proceeding in another direction, so that if both ships were to continue their respective courses, they would pass so near as to involve any risk of a collision." Now here we must pause. It was utterly impossible for the Legislature to have defined what would have been, or constituted risk of collision; it is only those who are experienced in these matters who can form anything like an accurate opinion upon the subject.

You are not to attempt to scan nicely how the ships bear from each other; but if there is any probability of a risk of collision the statute ought to be obeyed. I am sure that all our experience teaches us that this was a very wise rule and regulation, because we constantly have conflicting evidence as to whether a vessel was on one bow or the other, or two points on one bow or the other. * * * * * The statute goes on—"The helms of both ships shall be put to port, so as to pass on the port side of each other." Now * * * * the question has been raised whether the moment one vessel descries the other, and they are so approaching, at whatever distance, that if they pursue their courses a collision will arise, they are immediately, without consideration, to port the helm? That is a very material construction to put on the statute, and there is not a word in it which imposes that duty. Common sense is, that when you see a vessel approaching at a considerable distance, whether a steamer or a sailing vessel, especially when you are unable to ascertain which it is, that reasonable time is to be taken in determining what course you should pursue, and reasonable time for forming a proper determination, and that can never be construed into delay. The statute means that you shall exercise your discretion, and then obey the necessity indicated by the previous words of the statute, when the necessity has arisen."

Fig. 1.

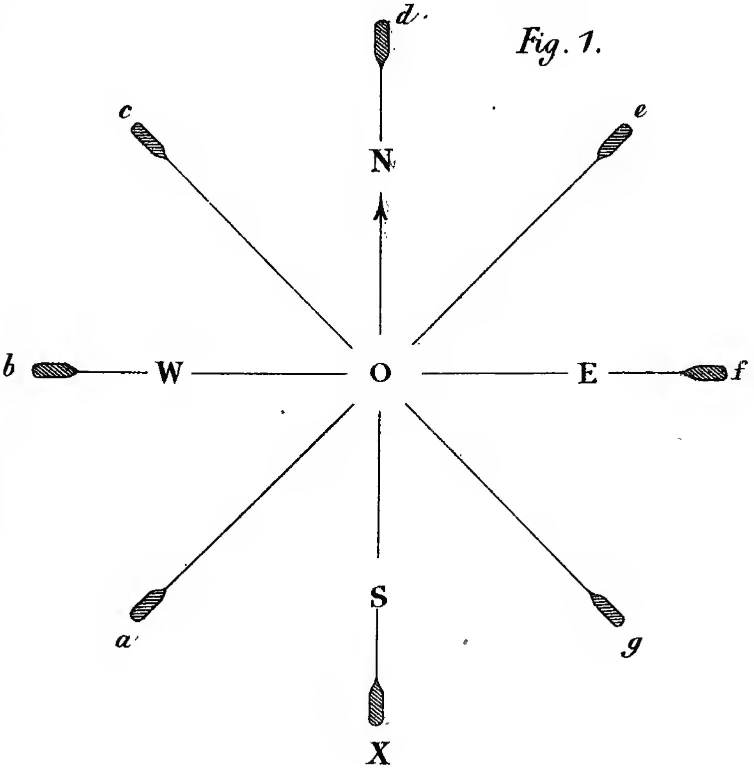


Fig. 3.

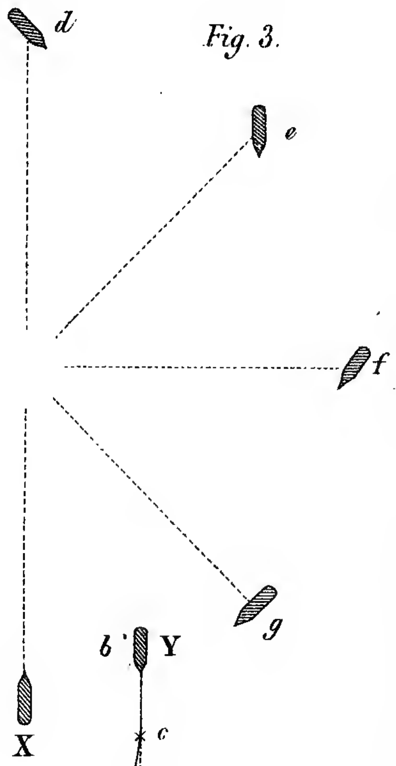


Fig. 2.

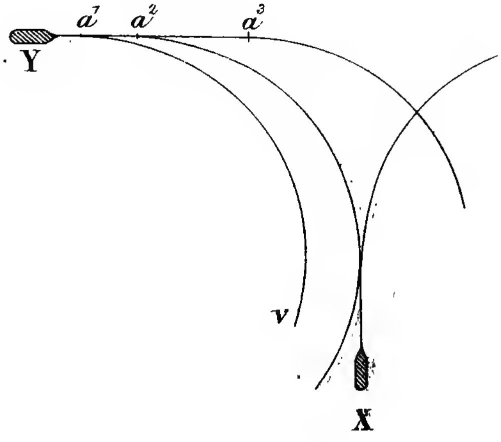
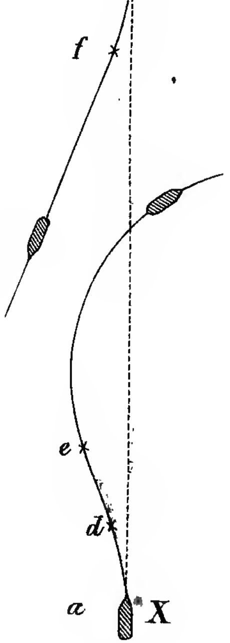


Fig. 4.



APPENDIX J.

ABSTRACT
OF THE
PRINCIPAL COLLISION CASES
WHICH HAVE BEEN
TRIED IN THE ADMIRALTY COURT
FROM
1854 to 1864.

Abstract of the Principal Collision Cases which have

The names of ships condemned are printed in *Italics*.

No.	Date.	Ships' Names.		Darkness or Daylight, D. or L.	Wind and Weather.	Course of A.
		A.	B.			
1	1854. April 27	Mary	*Cyrus*	D.	W.N.W., fresh, dark	Hove-to starboard tack.
2	Sept. 21	*Lady Ann*	*Shannon, S.*	D.	W.N.W., fresh, dark, and clear.	S.W. ½ S.
3	1855. Jan. 6	Erin's Queen, S.	*Sulima, S*	L.	N.N.W., to W.N.W., light wind, hazy.	Up the Bristol channel.
4	July 8	Elbe, S.	*Dragon, S.*	L.	Foggy	Up and down
5	July 24	Emerald Isle	*Red Jacket*	L.	W., fine, moderate	N.N.W
6	Aug. 12	*Pioneer*	*Arundel*	L.	W.N.W., light, foggy	S.E
7	Aug. 14	Simla, S.	*Cleopatra, S.*	D.	E.N.E., very light, fine	W. ½ S.
8	Aug. 17	John Benyon	*Imperatriz, S.*	D.	E.N.E., moderate	W.
9	Aug. 19	Felix	*Mobile*	L.	S.W., fine	S.S.E
10	Nov. 5	Christine and Maria.	*Dumfries*	D.	S.W., thick and showery.	N
11	Nov. 10	*Petrel*	Robinson	D.	W.S.W., strong, dark	E.S.E.
12	Nov. 12	Pet	*Zollverein*	D.	S.W. to S.S.W., fresh, thick weather.	W.
13	Nov. 14	*Ceres, S.*	Beate	D.	W.N.W., fine	N.E.
14	Nov. 14	Glide	*Despatch, S.*	D.	S.E., cloudy	S.S.W.
15	Nov. 30	*Flying Fish*	Aerolite	D.	N.E., little hazy	E. b. S
16	Dec. 3	Robert Burrell	*Telegraph, S.*	D.	W.S.W., strong breeze, dark and hazy.	N. b. W. ½ W.
17	Dec. 11	*Albatross*	Osprey	L.	N.W., fine, but occasionally hazy.	N.N.E.
18	Dec. 14	*Alert*	Teresita	L.	W.N.W., fresh, hazy	E. b. N.
19	Dec. 17	*James*	William and Sarah Ann.	D.	E. by N., fine	S.E. b. E
20	Dec. 18	Walter Hood	*Emigrant*	D.	E.S.E., fine but hazy	W.
21	1856. Jan. 10	Squirrel	*Wyke Regis*	D.	Northeasterly, wind light.	E.S.E
22	Jan. 28	Mary Ann	*Admiral Collingwood.*	D.	N., clear	N.W. b. W.
23	Feb. 3	Mangerton, S.	*Josephine Willis.*	D.	S.S.E., clear	E. b. N. ½ N.
24	Feb. 4	Friends Increase.	*Queen Dowager*	D.	S.W., dark and hazy	S.S.E
25	Feb. 28	Falconer	*Conqueror, S.*	L.	W.N.W., fresh, fine	N
26	Feb. 29	*Leith, S.*	Beehive	L.	N.E., fog	N. b. W
27	Mar. 3	Effort	*Berbice*	D.	E.S.E., fine, hazy	N.E. (?)
28	Mar. 9	*Fortunatus*	Coquette	D.	E.S.E., dark, rain	N.E
29	April 3	*Stirlingshire*	Afrika	D.	S.S.W., gale, thick	Hove-to W
30	April 5	Blackfriars	*Rumena*	D.	S.S.W. to S. b. E., rain, overcast.	W.
31	April 28	Glanmire	*Joseph Somes*	D.	N. b. W., moderate, fine, but dark.	W. ½ N.

been tried in the Admiralty Court from 1854 *to* 1864.

Those cases to which attention is specially drawn have an *asterisk* affixed in the fifth column.

Course of B.	A sighted B.	B sighted A.	Steps taken to avoid Collision.		No.
			By A.	By B.	
N.	Ahead, 1 mile.	Ahead, 1 mile.	None.	The helm put hard a-port.	1
N.E. b. N.	3 points on starboard bow, ¾ mile.	On starboard bow, ¼ mile, (?)	None.	Ported	2
Down the Bristol channel.	Nearly ahead, 1 mile.	3 points on starboard bow, 2 ships' lengths.	Helm put to port, then hard a-port.	Starboard, stopped and reversed.	3
the Elbe	Right ahead, 400 yards.	Right ahead, 400 yards.	Ported, narrow channel.	Starboarded, then ported; took opponent for ship at anchor.	4
N.E. b. E.	Port bow, 1 point	7 points starboard bow, 1 mile.	Kept course, and at last moment ported.	Starboarded	5
E.S.E	Starboard bow, 500 yards.	3 points port bow, 200 yards.	None.	Ported	6
E. ½ N.	Right ahead, 2 miles, white light first.	3 points starboard bow, 3 to 4 miles, green light seen.	Ported	Starboarded (?)	7
E	Right ahead, 3 miles.	Right ahead, 3 miles.	Ported	Ported, stopped, reversed, and starboarded.	8
N.E. b. N.	Broad on starboard bow, 2 miles.	On port bow	None.	Ported	9
S.S.E	On port bow, 2 cables.	2 or 3 points on starboard bow.	Ported	Ported	10
N.W	Little before port beam, 1 cable.	1½ point on starboard bow.	Ported	Starboarded	11
N.E	4 points on starboard bow, ¼ mile.	On starboard bow. 2 ships' lengths.	None.	Ported	12
S.W.	½ point on port bow, ¼ mile.	3 points on starboard bow, 3 miles.	None.	Ported	13
E.S.E	Starboard beam, 1 mile.	3 points port bow, ½ mile.	Ported	Ported	14
W. b. N.	1½ point on starboard bow, ¾ mile.	1 point on port bow, ¼ mile.	Luffed, starboarded.	Luffed, ported	15
S.S.E. ½ E.	½ point on port bow, 2 miles.	3 points on starboard bow, 100 yards.	Ported	Starboarded	16
W.S.W.	Starboard bow, ¾ mile.	Broad on port bow, 2 miles.	Helm put down, (starboarded.)	None, at last helm put down, ported.	17
N. b. W.	2 points starboard bow, 400 yards.	On port bow, 1 mile.	Ported, and then starboarded.	None, but tacked to avoid shoal.	18
N.N.E.	On port bow, ½ mile.	On port bow, ¼ to ½ a mile.	Ported	Kept a close luff	19
N.E. b. E. ½ E.	2 to 3 points before port beam, 2 miles.	Close to, on starboard bow.	Ported	None.	20
N. b. W.	Broad on port bow, 300 yards.	4 points on starboard bow.	Ported and squared main yard.	Ported	21
N.E. b. E.	On port bow, ½ mile.	3 points on starboard bow, ¾ mile.	Ported	Ported	22
W.S.W.	1½ points port bow, 1½ mile.	½ point starboard bow, 1¾ mile.	Ported	Starboarded	23
N.W	2 points port bow, ⅓ mile.	2 points starboard bow, 50 yards.	None, at last ported.	Ported	24
S.W. b. W	4 points starboard bow, 200 yards.	On port bow, 300 yards.	None.	Stopped and reversed.	25
S.S.E	On port bow, 100 yards.	On starboard bow, 100 yards.	Ported	Ported	26
S.W. ½ S.	3 points port bow, 1½ mile.	Port bow, ½ mile (?)	None.	Ported	27
W. b. S	Little on port bow, ¼ mile.	Close to on port bow.	Ported	Ported	28
E.S.E	On starboard bow, 200 yards.	On port bow, 400 yards.	None.	Ported	29
E. b. N.	On port bow, ½ mile.	2 points starboard bow, ¼ mile.	Ported	Starboarded	30
E.S.E.	1 point on port bow, nearly 3 miles.	1½ point on starboard bow, nearly 2 miles.	Ported	Ported	31

Abstract of the Principal Collision Cases which have

No.	Date.	Ships' Names.		Darkness or Daylight, D. or L.	Wind and Weather.	Course of A.
		A.	B.			
32	1856. May 5	James and Ann	*Loftus*	D.	S.E., fine, clear, light	N.E. b. N.
33	May 5	Meta Herminia	*Herefordshire*	D.	S. to S.E. b. S., fresh, dark.	E. b. N.
34	May 27	Agnes	*James Gibb, S.*	D.	W., foggy	N.N.W.
35	June 5	*Georgina*	*Linda*	D.	N.E., cloudy	E.S.E.
36	Aug. 11	Henriette	*Clontarf*	D.	S.E., dark, hazy	E.N.E.
37	Aug. 22	Viking	*James Holmes*	D.	N.N.E. to N.N.W., clear, light.	W.N.W.
38	Sept. 3	Camilla	*Christiana*	D.	Northerly, fine, light	W. b. N.
39	Sept. 6	Mistley	*Daquoise*	D.	E. b. S., misty, light rain.	S. b. E.
40	Sept. 21	*Falcon, S.*	Imogene	D.	W.S.W., fine, clear	N.E. b. E. ½ E.
41	Sept. 24	Shannon, S.	*Scotland, S.*	D.*	N.N.W., squally, rain	N.N.E.
42	Sept. 25	Yeoman	*Helen Heilgers*	D.*	Northerly, fresh, thick, showery.	W. b. N.
43	Sept. 30	Sillett, S.	*Admiral Boxer*	D.	N.E., fresh, dark, but clear.	N.W. b. N.
44	Oct. 2	Alert	*Activ*	D.	S., dark and showery	E.S.E.
45	Oct. 3	Auspicious	*Undine, S.*	D.	N.E., thick, raining	E. b. S. ½ S.
46	Oct. 3	Harburg	*Linda Flor*	D.	S. to S.S.E., cloudy and thick.	E.S.E.
47	Oct. 12	Harmony	*Ceres, S.*	D.*	N., light, dark, with drizzling rain.	S.E. b. S.
48	Nov. 17	*Colne*	Norval	D.	W., fresh, dark	S.S.E.
49	Nov. 20	Ardina	*Sylph, S.*	D.*	N.W., fresh, dark	E. b. S.
50	Nov. 20	*Mary Russell*	Sea Rover	D.	N. b. E. to N. b. W. moderate, slight haze.	E. b. N.
51	Dec. 5	May	*Hong Hakon*	D.	W.S.W., light hazy	N.W.
52	1857. Jan. 3	*Celerity*	City of London	D.	S. W. b. S., strong, clear.	Hove-to head, S. b. E.
53	Jan. 18	Asp	*Alexander*	L.	Westerly, fine, clear	N.N.W.
54	Feb. 18	*Midlothian*	Urania, S.	D.	S. W. b. S., fine, dark	S.E. b. S.
55	Mar. 1	Jason	*Duchesse de Brabant.*	L.	E.S.E., hazy	N.E.
56	Mar. 7	Smuggler	*Teutonia, S.*	D.	S.E., light, cloudy	S.W. b. S.
57	Mar. 22	Emily	*Sovereign, S.*	L.*	E. b. N., fine and clear	S.E. b. S.
58	April 28	Andrew Forster	*Tuscarora*	D.	S.E. b. E. to S.S.E., dark and raining.	N.E. b. E.
59	May 1	Imperial Prince	*Peninsula, S.*	D.	N.E., fine	E.S.E.
60	May 18	Fotieri	*Effort*	D.	W.S.W., light, clear	S.S.E.
61	June 17	*Genova, S.*	Neptunus	D.	N.E., variable, clear	E. ½ N.
62	June 21	Atalanta	*Queen of the South, S.*	D.*	W.N.W., light, fine, a little cloudy.	E.N.E.
63	June 28	Park	*Minesota*	D.*	W.S.W., fine, clear	N.W.
64	July 13	Grazia à Dia	*Carlyle*	L.	S.W., fresh, clear	W.N.W.
65	Aug. 16	Bertie Eleonore	*Britannia, S.*	D.	N.N.E., fresh, fine	E.

been tried in the Admiralty Court from 1854 *to* 1864.

Course of B.	A sighted B.	B sighted A.	Steps taken to avoid Collision.		No.
			By A.	By B.	
S.W. b. W	1 point on starboard bow, 1 mile.	A little on starboard bow, ⅛ mile.	Ported	Ported	32
W	3 points on starboard bow, 3 miles.	3 points on port bow, 200 yards.	Starboarded	Ported	33
E. ½ N.	On port bow, ½ mile.	4 points on starboard bow, 50 yards.	Ported	Starboarded	34
S.W. b. S	6 points on port bow, 3 miles.	Little on starboard bow, 200 yards.	None, at last ported.	Ported	35
S.W. b. S	On port bow, 1 mile.	1 point on starboard bow, 100 yards.	Ported	Ported	36
E	Little on port bow, 4 miles.	3½ points on starboard bow, ½ mile.	None, kept a close luff.	Ported	37
E. b. N.	Little on port bow, 1 mile.	1 point on starboard bow, ¼ mile.	Ported	Ported	38
N.	Ahead, about ¾ mile.	4 points on starboard bow, close.	Ported	Starboarded	39
N.W.	6 points on starboard bow, 1 mile.	On port beam, 3 or 4 miles.	Starboarded	Ported	40
S.	Ahead, 4 miles, white light seen.	2 points on starboard bow, 1 mile, white light seen.	Ported, stopped, and reversed.	Starboarded	41
E. b. S	2 points on starboard bow, 2½ miles.	Right ahead, ¾ mile.	None, kept a close luff.	Ported	42
S.E	Ahead, 3 miles	A little on port bow, 1 mile.	Ported	Starboarded, then ported.	43
N. b. W. ½ W.	Little before starboard beam, 1½ mile.	2 points port bow, 200 yards.	None	Ported	44
W.	On port bow, 2 to 3 miles.	3½ points starboard bow, 100 yards.	None, at last ported.	Starboarded	45
S.W. ¼ W	4 to 5 points on port bow, 1 mile.	On lee (starboard) side, close, 200 yards.	None, at last ported.	None, no time	46
N.W., but altering to southward.	Broad on port bow, 1 mile.	Right ahead, 200 feet.	None, until seeing green light, then ported.	Helm being a-starboard, seeing A put hard a-starboard.	47
N.N.W	4 points starboard bow, ¼ mile.	Ahead, ¼ mile.	Ported	Ported	48
W.N.W	3 to 4 points on starboard bow, 1½ mile.	1 point on port bow, ½ mile.	Seeing green light starboarded, seeing red ported.	Ported, stopped, & reversed.	49
W. b. S	1 to 2 points on port bow, ¼ mile.	Right ahead, 2 miles.	Ported, at last starboarded.	Kept a close luff, then ported.	50
S.	On starboard bow, 1 mile.	Nearly ahead, 1 mile.	Ported	Ported	51
N.E.	Little on starboard bow, 2 miles.	Nearly ahead, 30 yards.	None	Ported and stopped.	52
S.	1½ point starboard bow, ½ mile.	On port bow, ½ mile.	None	Ported	53
N. b. W	4 points on starboard bow, 3 miles (?)	2 points on port bow, 200 yards.	None	Ported and stopped.	54
S.	2 points on port bow.	Ahead, 2 ships' lengths.	None, at last ported.	Ported	55
N.E. b. E.	3 points port bow, 2 miles.	Ahead, 200 yards.	Ported	Ported, then starboarded.	56
N. b. W.	Little on starboard bow, 2 miles.	Little on port bow, 1 mile.	None	Ported, stopped, & reversed.	57
S.W. ½ W	2 points on starboard bow, 1 mile.	Little on starboard bow, 1 mile.	None, at last ported.	Ported	58
W. ½ N.	1 point on port bow, 3 miles.	Little on starboard bow, ¼ mile.	Ported	Starboarded, stopped, and reversed.	59
N. b. W. ½ W.	Ahead, 1 mile.	1 point on port bow, 1 mile.	Ported to luff	None, at last ported.	60
W	1½ point port bow, 2 miles.	2 points starboard bow, 2 miles.	Ported, stopped, & reversed.	Starboarded	61
W.N.W	Nearly ahead, 2 miles.	A little on starboard bow, 1 mile.	Ported	Ported, stopped, & reversed.	62
E. b. S.	1 point starboard bow, 40 yards.	½ point starboard bow, ½ mile.	Ported	Ported	63
S.S.E	2 or 3 points starboard bow, 3 or 4 miles.	2 points port bow, 2 or 3 miles.	Ported, kept away.	Ported, luffed.	64
W. b. S. ½ S.	Right ahead, 2 miles.	2½ points starboard bow, ¼ mile.	Ported, kept away.	Ported and stopped.	65

Abstract of the Principal Collision Cases which have

No.	Date.	Ships' Names.		Darkness or Daylight, D. or L.	Wind and Weather.	Course of A.
		A.	B.			
66	1857. Aug. 16	Carl August	*Scandinavian, S.*	D.	N., fine	E. b. N
67	Aug. 26	*Alma, S.*	Moscow, S	D.	Southerly, light, clear	E.S.E
68	Sept. 2	Hellena	*Flavio Geojia*	Twilight.	W.S.W., fresh, hazy	S.S.E
69	Sept. 11	Sophie, S	*William Hutt, S.*	D.	N.W., fresh, rain	W.
70	Sept. 14	Murray	*Kate Swanton*	L.	E. b. S., clear	N. ½ E
71	Sept. 16	Lady Sale	*H.M.S. Pembroke, S.*	D.	S.S.W., moderate, fine, starlight.	S.E
72	Sept. 17	*William*	European, S	L.	S. W. b. S., clear	W.N.W
73	Sept. 23	Fanny	*Bemhardina*	D.	E., fresh, fine	N.N.E.
74	Oct. 18	*Lord Dacre*	Sovereign	D.	S. E. b. S., fresh, dark	S.W. b. S.
75	Oct. 21	Rowley	*Grefion*	D.	N. b. E., dark	W.N.W
76	Oct. 21	*St. Catherine*	*Albert, S*	D.	N.E., fresh, dark	S.S.E
77	Oct. 21	Violet	*Sir C. Napier*	D.	N.N.W., moderate, dark.	S. b. E.
78	Oct. 22	*Swallow*	*Gladiator*	D.	N. b. E. to N.N.E., fresh, rain.	W. b. N. ½ N.
79	Oct. 23	Charles	*Progress*	D.	S.W. to S.S.W., fresh	W.N.W
80	Oct. 24	Fama	*Tell*	D.	S.E., fresh, hazy	S.S.W.
81	Nov. 23	Tanfield	*Figlia Jenney*	D.	S.W. b. S., dark, fresh	S.E. b. S
82	Nov. 26	*Castregnano*	*Aberfoyle*	D.	N.N.E. to N.E., fresh, clear.	W. b. N.
83	Dec. 24	Wyke Regis	*James*	L.	W. b. S., fine, clear	Both in stays
84	1858. Jan. 14	Balfour	*Bien*	D.	E. to E.S.E., moderate	N.N.E.
85	Feb. 11	Leander	*N. American, S.*	D.	S.E. to S.S.E., light, hazy.	S.W. ½ W
86	Feb. 12	*Rouen, S*	*Jugen Rahlff*	D.	E.S.E., clear	N.E. b. N.
87	Mar. 7	Tarsa	*Iron Master, S.*	D.*	S.W., dark, snow	S.S.E
88	Mar. 8	*Tecla Carmen*	*N. American*	D.	N.N.W., strong, dark	W.
89	Mar. 18	Eva	*Gaffer E. Mensinga.*	D.	W., moderate, hazy	S. b. W
90	April 3	Jeannette	*Swallow, S*	D.	S.S.W., cloudy	W.
91	April 15	*Ernestine, S.*	*Thomas*	D.*	S. b. E., fine	S. b. E
92	April 29	*Yorkshire*	Ruby	D.	W.S.W. to N.W., gale	N. b. E.
93	June 29	Tweed	*Magnet*	D.	W., fresh, fine	S.W. b. S
94	Aug. 15	Erik Baker	*Juno*	D.*	S.W. b. W., dark, clear.	W.N.W
95	Aug. 25	Fortitude	Cæsar	D.	S.W. b. W., fresh, fine	S. b. E
96	Aug. 31	Etne	*H.M.S. Valorous, S.*	L.	W., moderate, fine, clear.	In stays
97	Sept. 1	Anglesea	*Hoang-Ho*	D.	W. b. S., fresh, squally	S. b. W
98	Sept. 5	George Robinson	*Gemini*	D.	W., fresh, squally	S.S.W.
99	Sept. 15	Sophia and Maria	*Lady Jocelyn, S.*	D.	E.N.E., light, fine	N. ½ W
100	Oct. 14	Christina	*Livingstone*	D.	E.S.E., gale, clear	N.W

been tried in the Admiralty Court from 1854 *to* 1864.

Course of B.	A sighted B.	B sighted A.	Steps taken to avoid Collision.		No.
			By A.	By B.	
N.W. ½ N.	Broad on starboard bow, 1 mile.	Ahead, 200 yards.	None.	Starboarded, stopped, & reversed.	66
W. b. N.	1 point port bow, 2 miles.	2 points starboard bow, 1 mile.	Ported and stopped.	Starboarded and stopped.	67
N.N.W.	On port bow, 1 mile.	3 points starboard bow, ½ mile.	Ported	Ported	68
E.N.E.	3 points port bow, 1 mile.	3 points starboard bow, 150 yards.	Ported	Starboarded	69
S. ¾ W	1 point port bow, 1 mile.	1½ point starboard bow, ¾ mile.	Ported	Ported	70
N.N.W.	1 point starboard bow, 2 miles.	1 point on port bow, 1 cable.	None.	Ported, stopped, & starboarded.	71
E.S.E	Starboard bow, ½ mile.	Port bow, 2½ miles.	Starboarded	Starboarded	72
S.	Little on port bow, ¾ mile.	1 point starboard bow, ¾ mile.	None.	Ported	73
N	2 points port bow, 1½ mile.	1 point starboard bow, ½ mile.	Starboarded	Ported	74
E.S.E	4 points starboard bow, 1 mile.	Little on port bow, ½ mile.	None.	Ported	75
N.N.W	2½ points port bow, 2 miles, all 3 lights.	Starboard bow, ½ mile.	Ported	Ported	76
N.E.	2 points starboard bow, 250 yards.	4 points port bow, 1 mile.	Ported	None.	77
E. b. S	½ point starboard bow, 1½ mile.	3 points port bow, 2 miles.	Ported	Ported	78
S.E. b. E.	2 points starboard bow, 1 mile.	Ahead, very close.	None.	None.	79
N.E. b. E.	1 or 2 points port bow, 1 mile.	Right ahead, 1 mile.	Ported	None, at last starboarded.	80
N.W	2 points starboard bow, 3 miles.	Starboard bow, ¼ mile (?)	None.	Ported	81
S.W. b. S. ½ S.	On starboard quarter, 200 yards.	Broad on port bow, ½ mile.	None.	Ported	82
....	....	....	....	....	83
S.	2 to 3 points port bow, 1 mile.	2 points starboard bow, 4 ships' lengths.	None, at last ported.	Tried to port, no time.	84
N.E. b. E. ½ E.	2 to 3 points starboard bow, 3 or 4 miles.	Right ahead, 2 miles.	None.	Ported	85
S. b. W	1½ point port bow, ¾ mile.	3 points starboard bow, 2 miles.	Ported	Ported	86
N.N.W.	Green light seen 4 points starboard bow, ¾ mile.	Starboard bow, ½ mile.	Ported	Ported	87
N.E. b. N.	4 points port bow, 1 mile.	2 points starboard bow, 400 yards.	Ported	Ported	88
N.E.	1 point starboard bow, ¾ mile.	Starboard bow, ½ mile.	None.	Starboarded	89
S.E	Broad on starboard bow, 2 miles.	2 points port bow, ½ mile.	Tacked.	Stopped, reversed, and ported.	90
N. b. E.	2½ points starboard bow, ½ mile.	1 point port bow, 4 miles.	Stopped, A sunk	Ported	91
W.S.W.	1½ point starboard bow, ½ mile.	3 points starboard bow, 1 mile.	Ported	None, at last starboarded.	92
N.E. b. N.	1 point port bow, 2 miles.	Ahead 4 ships' lengths.	Luffed head to wind.	Starboarded	93
E. b. N.	1 point starboard bow, 1 mile.	Starboard bow, ¼ mile.	None.	Ported	94
N.N.W.	2 points port bow, ¾ mile.	1 point port bow, 1 mile (?)	Ported	Ported	95
S. W. b. W	On starboard beam, ½ mile.	2 points on port bow, ½ mile.	None.	Stopped, reversed, starboarded and stopped.	96
N. b. E.	2 points starboard bow, 2 miles.	Ahead, 2 miles.	Kept a close luff	Ported	97
N.E. ½ E.	½ point starboard bow, 1 mile.	2½ points port bow, 6 ships' lengths.	Kept a close luff	Starboarded	98
S.W. ¾ W.	Broad on starboard bow, 4 miles.	3 points port bow, 1½ mile.	None.	Ported	99
S.	2 points starboard bow, 1 cable.	3 points port bow, 1½ mile.	Ported	Ported	100

Abstract of the Principal Collision Cases which have

No.	Date.	Ships' Names.		Darkness or Daylight, D. or L.	Wind and Weather.	Course of A.
		A.	B.			
	1858.					
101	Oct. 29	Ada Letitia	*Jallaciel Ban*	D.	N. to N.E. b. N., light	E. b. S
102	Nov. 6	Ann	Magnet, S	†D.*	N. by E., dusk, clear, in the Thames.	S.E. b. E
103	Nov. 25	Civility	*Sea Nymph*	D.	S.E. b. S., clear	In stays
104	Dec. 7	*Temora, S.*	Baro Way	D.	E.N.E., moderate, fine	N.N.E
105	Dec. 11	Veracity, (colored lights.)	*Circassian*, (white light only.)	D.*	S. b. W., cloudy	W
	1859.					
106	Jan. 9	Crown	*Schwalbe, S.*	D.	W.S.W., fine and clear	N.E
107	Jan. 27	Dora	*Calla*	D.	W.N.W., gale, cloudy	N
108	Feb. 5	*Vizcaya*	D'Elmina	D.	S.S.W., fresh, squally	W
109	Feb. 8	Elfin	*Prince Patrick, S.*	D.	S. b. E., fresh, clear	E. b. S
110	Feb. 9	James	*Richard Cobden*	L.	S.W., squally, hazy	S.S.E
111	Mar. 5	John and Richard	*Devonshire*	D.	W.N.W., moderate, drizzle.	S.W
112	June 7	Kepler	*Vortigern*	L.	E. b. S., light, fine	In stays
113	Aug. 7	Robert Garden	*Ondine, S.*	D.	S.S.W., moderate, fine	W
114	Oct. 14	Josephine	*British Yeoman*	L.	S.E., clear	E.N.E
115	Oct. 21	*Laurel*	E. Lothian	D.*	N.N.W., clear	W. b. S
116	Nov. 16	Campbell	*Foyle, S.*	D.	N.E. b. E., clear	S.S.W
117	Nov. 18	Jane, Anne, and Elizabeth.	*Empress Eugenia, S.*	D.	S., dark, clear, (narrow channel.)	E.S.E
118	Nov. 27	Vrede	*Victor*	D.	N.N.W., clear	W.S.W
119	Dec. 24	*Ocean*	Elizabeth	D.	S.S.W., fresh, rain	S.E. b. E. ½ E.
	1860.					
120	Jan. 26	Ellen	*Shealtiel*	D.*	S.S.W., fresh, showery	S.E
121	Feb. 4	Hartford	*Halcyon*	D.	Westerly, fresh, clear	S. b. W
122	Feb. 15	London, S. In the	*Wearmouth, S.* Thames.	D.*	N.N.W., clear	S. b. W
123	Feb. 24	Restless	*Louisa*	D.	S. b. W., fresh, clear	E.S.E
124	Mar. 6	*Arthur Gordon*	Independance, S.	L.	W., moderate, clear	N.N.W
125	May 26	John Romilly	*Maria Mathilda*	L.	W. b. S., fresh, clear	S. b. W
126	June 10	*Robert Ingham*	*Aurora*	D.	W., moderate	N.N.W
127	Sept. 5	Egyptian	*Chancellor*	D.	S.W., moderate, drizzle	W.N.W
128	Sept. 20	Ellen	*Bavaria, S.*	D.	N.N.E., moderate, clear	W. ½ N
129	Sept. 25	*Acme*	Cornelis Gips	D.	N., squally, rain	E. ½ N
130	Sept. 25	*Acme*	Merck	D.	N., squally, rain	E. ½ N
131	Oct. 25	*José Maria*	*Palm*	L.	S.S.W., moderate, fine	W
132	Nov. 8	*Black Prince, S.*	Araxes, S.	D.*	Variable, light, cloudy	N

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† This was a cross action. "Megnet" had brought one, and was condemned: appealed, and was found not Brethren, different from those who tried first, found for the "Megnet": it was

been tried in the Admiralty Court from 1854 *to* 1864.

Course of B.	A sighted B.	B sighted A.	Steps taken to avoid Collision.		No.
			By A.	By B.	
W. b. N. ½ N.	2½ points starboard bow, 2 miles.	2½ points port bow, ¼ mile (?)	Ported	Ported	101
N.W. b. W	3 points starboard bow, ½ mile.	Starboard bow, 1 mile (?)	Ported	Ported and stopped.	102
E	Ahead, ½ mile	Ahead, 10 minutes.	None	Starboarded	103
S. W. b. S. ½ S.	1 point port bow, 1 mile.	2 points starboard bow, 2 miles.	Ported	Ported	104
E.N.E	2 points port bow, 3 miles.	Starboard bow, 200 yards.	Ported	Ported, after crossing A's bows.	105
S.W.	Three lights, ½ point port bow, 1¼ mile.	1 point starboard bow, ½ mile.	Ported	Ported	106
S.W.	Little on starboard bow, ¼ mile.	3 points port bow, 2 miles.	Ported	None, at last ported.	107
E. b. S	Little on starboard bow, 1 mile.	1½ point port bow, ½ mile.	None, at last ported.	Ported	108
N.W. b. W	3½ points starboard bow, 3 miles.	2 or 3 points port bow, 2 miles.	None, at last starboarded.	Ported, stopped, & reversed.	109
W.N.W	Broad on port bow, 1 mile.	Ahead, 2 ships' lengths.	None, at last ported.	Ported	110
N. b. E. ½ E.	1½ point port bow, ¼ mile.	1 point starboard bow.	None	Ported	111
N.E. b. N.	On starboard beam, ½ mile.	2 to 3 points port bow, 2 miles.	None	None, at last ported.	112
N.E. b. E. ½ E	2 points port bow, 2 miles.	3 points starboard bow, 1 mile.	None, at last ported.	Ported, stopped, & reversed.	113
S.S.W.	Port bow, 1 mile	Starboard bow, ¼ mile.	None, at last ported.	Ported	114
N.E. b. E. ½ E.	Starboard bow, 300 yards.	Port bow, ½ mile	Ported	Ported	115
N.E. ½ N.	Ahead, 4 miles	Port bow, 2 miles	Starboarded (?)	Ported (?)	116
....	Starboard bow, 1 mile, the bright light.	Port bow, 200 yards.	Kept course	Ported, stopped, & reversed.	117
N.E. b. E.	1 mile (?)	2 miles (?)	Ported	Kept course, then starboarded.	118
W.	Green light 2 points starboard bow, 1½ mile.	½ point starboard bow, 1 mile.	Starboarded, ported, and starboarded.	Ported	119
W.S.W.	Green light, 2 points port bow, 2 miles.	Red light, then green, then red.	Kept course, and then ported.	Ported	120
N. b. W	Right ahead, ½ mile.	2½ points starboard bow, 1½ mile.	None, at last ported.	None, at last starboarded.	121
W.N.W	White, then green light, 2 points port bow, 1 mile.	White and red lights starboard bow, ¼ mile.	Ported and eased, on green light appearing, hard a-port.	Ported	122
Hove-to W	7 points starboard bow, 500 yards.	Port beam, 1 mile (?)	None	None	123
W.N.W	5 points starboard bow, 3 miles.	Port beam, 4 miles.	None	When hailed, starboarded and stopped.	124
N.N.W.	4 points starboard bow, 1 mile.	2 to 3 points starboard bow, 4 miles.	None	Ported	125
S.S.W.	2 points starboard bow, 2 cables.	2 points port bow, 1 mile.	Ported, bore up	None	126
S.S.E	Right ahead, 1 mile.	2½ points starboard bow, ¼ mile.	Ported	None, at last starboarded.	127
S.E. b. S	Ahead, 2 or 3 miles.	3 points port bow, 2 miles.	Ported	Starboarded.	128
W. b. N. ½ N.	½ point port bow, ¼ mile (?)	2 points starboard bow, ½ mile.	Ported	None	129
W. ½ S	Nearly ahead ¼ mile (?)	3 points starboard bow, ½ mile.	Ported	Starboarded.	130
S.E. b. S	4 points starboard bow, 1½ mile.	½ point port bow, 1 mile.	Ported	Ported	131
S. ¼ W	White light, 3 or 4 points starboard bow, 4 miles, shortly after a green light.	White light, ½ point starboard bow, 4 miles, shortly after a green light.	Starboarded a little, seeing B port, then hard a-starboard.	Ported a little, then hard a-port, and stopped.	132

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to blame, but condemned on technical grounds. "Ann" then brought the action as above. Two Trinity referred to two fresh Brethren, who found both ships to blame for not porting in time.

Abstract of the Principal Collision Cases which have

No.	Date.	Ships' Names.		Darkness or Daylight, D. or L.	Wind and Weather.	Course of A.
		A.	B.			
133	1860. Nov. 15	*John and Mary*	Aneurin	D.	Southerly, fresh, hazy	E.S.E
134	Nov. 17	Hydra	*Imogen*	D.	N.N.W., fresh, rain, sleet.	W.S.W.
135	Dec. 2	Mariamme Nottebohm.	*M. L. Frank*	D.	S.E., drizzly, hazy	E.N.E.
136	Dec. 8	*Ann*	Ouse	D.	S.E., fresh, cloudy	S.S.W
137	Dec. 21	*Mary Wylie*	*The West Indian.*	D.	N.N.E., fresh and cloudy.	E
138	1861. Jan. 22	Annabelle	*Canterbury*	D.	W. to W. b. N., light, fog.	S.S.W
139	Jan. 26	Magyar	*Rouen, S*	D.	W. to W.S.W., squally, clear.	S.S.E.
140	Feb. 13	*Kate*	Novo Elisio	D.	Southerly, fresh, dark	E. b. S
141	Mar. 10	Theodore	*Henry Morton, S.*	D.	W.S.W., moderate, clear.	S. ½ E.
142	Mar. 15	*Restless*	Cameo	D.	W. to S.W. b. S., strong, cloudy.	N.N.W
143	Mar. 16	*Thomas Begbie*	*S. Van Heel*	D.	W. b. S., moderate, cloudy.	In stays
144	April 14	*Flavio Gioio*	Union	D.	N.E., moderate, fine	W. b. N
145	April 15	*Gipsy*	Merit	D.	E. b. S. to E.S.E., moderate.	S.E
146	April 19	*Symmetry*	Reschid, S	D.*	E.S.E., fresh, clear	S.W.
147	May 11	James	*Ada, S*	D.	E., light, clear	N.N.E.
148	May 14	*Lindisfarne*	*Milan, S.*	L.	S.W., light, fog	E
149	June 15	Swallow	*Lord Raglan, S.*	D.	E.N.E., light, thick	S.S.E.
150	July 6	Iola Wyllie	*Beaver, S.*	D.	S. by E., fresh, squally	E.N.E.
151	July 13	*Patchett*	Highbury	L.	Southerly, moderate, clear.	W. b. S.
152	July 18	Opgaende Sol	*Tiger, S.*	D.	W.S.W., strong, clear	S.
153	July 24	Anns	*C. S. M.*	L.	S.W., fresh, cloudy	Head W
154	July 28	Mary Ann Duffris.	*W. V. Moses*	D.	N.W. b. W. to W., fresh rain.	S.W. b. W.
155	Aug. 11	*Chandos*	Severn	D.	S.W. to W.S.W., fresh, fine.	N.W
156	Aug. 12	Angora	*Adelgunde*	L.	S.W., fresh, clear	S.S.E
157	Aug. 14	Conquest	*Eugenie*	L.	S. to S.S.W., moderate	E.S.E
158	Aug. 15	William	*Harpswell*	D.	S.W. b. W. to W.S.W., strong, cloudy.	S
159	Sept. 14	*City of Norwich, S.*	*Amity, S.*	D.	W.S.W., strong, cloudy.	S.W. ½ S
160	Sept. 28	Constance	*Samson*	D.	S. by W. to S.S.W., moderate, hazy.	S.E
161	Sept. 28	Safe Return	*Olivia*	D.	S. b. W., strong, cloudy.	S.E
162	Sept. 29	*Martha Miles*	Corinthian, S.	D.	W.N.W., fresh, clear	E.S.E
163	Nov. 6	Crocus	*Amy Louisa*	D.	W.N.W., moderate, cloudy.	N
164	Nov. 16	Taxiarchis	*Danube, S.*	L.	Northerly, light, fine	S.
165	Nov. 30	Willem Eduard	*H. M. S. Flying Fish, S.*	D.	W. b. N., cloudy, squally.	E.S.E
166	Dec. 3	*Eclipse*	*Ceres, S.*	L.	N.N.E., strong, clear	N.W
167	Dec. 11	*Ettje Berg*	Die Sonne	D.	S.W. to W.S.W., fresh, clear.	W.N.W

been tried in the Admiralty Court from 1854 *to* 1864.

Course of B.	A sighted B.	B sighted A.	Steps taken to avoid Collision.		No.
			By A.	By B.	
N.W. b. N.	5 points starboard bow, ½ mile.	2 points port bow, 1½ cable.	None	Ported	133
N.E. b. E.	Nearly ahead, ½ mile.	Little on starboard bow, 1 ship's length.	Ported	Ported	134
S.S.W.	3 points port bow, 1½ mile.	1 point starboard bow, ¼ mile.	None, at last ported.	Ported, seeing light.	135
E. b. N.	2 points starboard bow, 1 mile.	2 points port bow, ¾ mile.	Ported	None, at last ported.	136
W. b. S.	3 points starboard bow, 1 mile.	3 points port bow, ⅛ mile (?)	Ported, then starboarded.	Ported, luffed	137
N.N.E.	4 points port bow, 2 cables.	Right ahead, 4 ships' lengths.	Ported	Ported, and squared mainyard.	138
N.N.W.	1 point port bow, 2 miles.	4 points starboard bow, ½ mile (?)	Ported	Ported and stopped.	139
W. b. N.	½ point port bow, 1½ mile.	3 points port bow, 1 mile.	Starboarded, then ported.	Ported	140
N.W. b. W. ½ W.	Ahead, 4 or 5 miles.	1½ points on starboard bow, 1 mile.	None	Starboarded and stopped.	141
S. b. E	2½ points starboard bow, ½ mile.	1 or 2 points port bow, ¾ mile.	Ported	Ported, luffed	142
S. b. W	Starboard beam, 1 mile.	3 points port bow, ¾ mile.	None	None, at last ported.	143
E.S.E	1 point starboard bow, 1 mile.	1 point port bow, 1½ mile.	Ported	Ported	144
N.E.	Broad on starboard bow, 300 yards.	Ahead, 2 ships' lengths.	Ported	Ported	145
N.E. b. E.	2 points starboard bow, 3 miles.	4 points starboard bow, 1½ mile.	Ported, seeing red light.	Ported	146
S.W. b. S.	2 points starboard bow, 3 miles.	½ point port bow, 1½ mile.	Ported	Ported and stopped.	147
N.W. b. W. ¾ W.	Little on starboard bow, 2 ships' lengths.	½ point port bow, 2½ cables.	Starboarded	Ported, stopped, & reversed.	148
N.W. b. N.	Little on starboard bow, 2 ships' lengths.	Ahead, 300 yards.	None	Ported and stopped.	149
W. b. S.	3 points starboard bow, 2 miles.	3 points port bow, ½ mile.	None	Ported and stopped.	150
E. ½ N.	3 points starboard bow, 1 mile.	1 point port bow, 1½ mile.	None	Luffed, ported	151
N. b. W. ½ W.	2 points port bow, 2 miles.	1 point starboard bow, 3 miles.	Seeing red light, ported.	Ported, stopped, & reversed.	152
S.S.E.	4 points starboard bow, 1 mile.	2 points port bow, 1 mile.	None	Starboarded, bore up.	153
....	1½ point port bow, ½ mile.	½ point starboard bow, 2 ships' lengths.	Ported, when within 200 yards.	Ported	154
S.S.E.	2 points port bow, 1 mile.	1 point port bow, 1¾ mile.	Ported	None, at last ported.	155
In stays	3 points port bow, 2 miles.	2 points abaft starboard beam.	Ported	Tried to get way on ship.	156
W.	3 points port bow, ½ mile.	1 point starboard bow, 3 miles.	None, at last ported.	Ported	157
N.W. b. W.	4 points port bow, 1 mile.	3 points starboard bow, 150 yards.	None, at last ported.	Ported, bore up	158
N.E.	2 points starboard bow, 1½ mile.	Little on port bow, 2 miles.	Starboarded, ported, stopped, and reversed.	Ported	159
W. b. S.	1 to 2 points port bow, ¾ mile.	2 points starboard bow, ½ mile.	None, at last ported.	Ported	160
N.N.W.	3 points starboard bow, 2 miles.	Ahead, ¼ mile	None	Starboarded	161
N.W. ¼ W.	2 points starboard bow, 5 miles.	1 point port bow, 1 mile.	None, at last ported.	Ported and stopped.	162
S. b. W. ½ W.	1 point starboard bow, 1 mile.	1 point port bow, 1 mile.	Ported	None, at last ported.	163
Rounding a point, helm a-starboard.	On port quarter, 3 or 4 miles.	1½ miles on port bow, then on starboard bow.	None	Starboarded, stopped, & reversed.	164
W. ½ S.	4 or 5 points on port bow, 2 miles.	Close-to, on starboard bow, 1 point.	Ported	Starboarded, stopped, & reversed.	165
N.N.E.	6 points port bow, 5 miles.	4 points starboard bow, 4 miles.	None	Stopped	166
S	4 points starboard bow, 2 cables.	2 point port bow, 1 mile.	Ported	None	167

Abstract of the Principal Collision Cases which have

No.	Date.	Ships' Names.		Darkness or Daylight, D. or L.	Wind and Weather.	Course of A.
		A.	B.			
168	1861. Dec. 19	Ellen and Mary	*Clementina*	D.	N.N.E., strong, fine	N.W. b. W.
169	1862. Jan. 3	Coleroon	*Wild Ranger*	D.	E. b. N., moderate, cloudy.	S.E
170	Jan. 27	Elise Many	*Cornwall*	D.	S. to S.S.W., fresh, cloudy.	E.S.E.
171	Jan. 29	Etna, S.	*Cheviot*	D.	W.S.W., fresh, clear	S. W. b. W. ½ W.
172	Feb. 3	Eliza	*Hidalgo*	D.	W.S.W., fresh, hazy	S.E. b. S. ½ S.
173	Feb. 9	Pursuit	*Surprise*	D.	N.W. to N. b. W., fresh, clear.	E. b. S
174	Feb. 17	Progress	*Mabel*	D.	S.S.E. to S.E. b. S., fresh, hazy.	E. b. N.
175	Mar. 5	Cort Adler	*Milan, S.*	D.	Calm, clear	Head, W.S.W.
176	April 18	Cleveland	*Amazone*	D.	W. to S.S.W., fresh, clear.	S. b. E
177	June 30	*Thomas Snooks*	City of Carlisle	D.	W., fresh, cloudy	S.S.W.
178	Aug. 7	Moulin	*Daphne*	D.	S. to S.W., strong, rain	E.S.E
179	Sept. 18	Deesse	*Moderation*	D.	N.N.E. to N.E., fresh	E.S.E
180	Nov. 29	*Matchless*	Cygnet	D.	S.E. b. E. to E.S.E., fresh, cloudy.	S. b. W.
181	Dec. 5	William France, S	*Albert, S.*	D.	Southerly, light, fine	W. b. N.
182	Dec. 18	*Natal Star*	Lucerne, S	D.	W.S.W., fresh, cloudy	S. ½ E.
183	Dec. 22	Maria Eugenia	*Resolute*	D.	N.N.W., fresh, showery	W. ½ S
184	1863. Jan. 4	*Maid of Kent*	Gnome	D.	S.S.W., fresh, clear	N.N.W
185	Jan. 21	Scipio	*Alster*	L.	N.W. to W.N.W., clear	N.N.E
186	Feb. 6	Navigator	Falkland	D.	W., strong, hazy	Wearing head S.E.
187	Feb. 12	John Mowlem	*Lloyds, S.*	D.	N.W. b. N., light, clear	W. b. S
188	Feb. 13	Governor Langden.	*Kangaroo, S.*	D.	Calm	S.W. b. W.
189	April 19	*Newburgh*	Oscar, S	D.	N.W. to W.N.W., fresh, clear.	N.N.E.
190	May 15	Maria de Brabant, S.	*Amalia, S.*	D.*	Calm, clear	S.E. b. E.
191	May 19	Cheshire Witch	*Rosa*	D.	E., gale, cloudy	S.S.E.
192	May 19	The Brothers	*Colleen Baun*	D.	N.N.E. to N.E. b. E., strong.	S.E.
193	July 25	Witham	*John and Eliza*	D.	S.W. b. W., light	S.S.E.
194	Sept. 13	*New Ed*	Gustav	D.	N.W. b. W. to W. b. N., light.	S.W. b. W
195	Sept. 18	Jane	*Great Eastern, S.*	D.	W.S.W., fresh, rain	N.W
196	Sept. 26	*Joseph Straker, S.*	Karla	D.	N.W. b. W., moderate, hazy.	N.E. b. N.
197	Sept. 30	*Newcastle, S.*	Graaf van Rechteren, S.	D.*	S.S.E., moderate	S.S.E
198	Dec. 6	Test	*Lord Cardigan, S.*	L.	W. b. S., fresh	E.S.E
199	1864. Jan. 6	*Starbruck*	*Hibernia*	D.	E.S.E. to E. b. N., fresh, cloudy.	S. b. E
200	Jan. 28	Kezia	*Eliza*	L.	W.N.W., moderate, clear.	N. ½ W
201	Feb. 5	Mary Ann	*Delaware*	D.	N.E., moderate, clear	E.S.E
202	Feb. 11	*George Dean*	Constitution	D.	S.W., gale, hazy	W.N.W

been tried in the Admiralty Court from 1854 *to* 1864.

Course of B.	A sighted B.	B sighted A.	Steps taken to avoid Collision.		No.
			By A.	By B.	
S.E. b. E	3 points port bow, ¾ mile.	2 points starboard bow, ½ mile (?)	Ported	Ported	168
W. b. N	2 points port bow, ½ mile.	Not seen till close	Ported	None, no time	169
W	2 points port bow, 1 mile.	Ahead, 200 yards	Kept a close luff	Ported	170
N.E. b. N.	1 point port bow, 1 mile.	Little on starboard bow, 1 mile.	Ported, stopped, & reversed.	Ported, at last starboarded.	171
N.W	Right ahead, ½ mile.	Little on starboard bow, ¼ mile.	Ported and braced up.	Tacked.	172
W.S.W.	1 point port bow, ½ mile.	1 point starboard bow, 1 mile.	Ported	None, at last ported.	173
S.W.	2½ points port bow, 1 mile.	3 points starboard bow, ¾ mile.	None, at last ported.	Ported, kept away	174
N.W. ½ W	On port beam, 2 miles.	2 points starboard bow, ½ mile.	None	Ported, stopped, & reversed.	175
N.N.W	1 point port bow, 1 mile.	2½ points starboard bow, 1 mile.	Kept a close luff	None	176
N.N.W	2 points port bow, 1½ mile.	2 points starboard bow, 1 cable.	None, at last ported.	Luffed up in the wind.	177
W. b. S.	On port bow, 1 cable.	3 points starboard bow, 1 cable.	Kept a close luff	Starboarded	178
W. b. N. ½ N.	¾ point starboard bow, ½ mile.	On port bow, ¾ mile.	None, at last starboarded.	Ported	179
N.E	1 point starboard bow, 1½ mile.	2 points starboard bow, 1 cable.	Ported, bore up	Ported	180
E. ¼ S	1 point port bow, 3 miles.	1¾ point starboard bow, 2 miles.	Ported	Ported, stopped, & reversed.	181
N.W. b. N. ¾ N	Nearly ahead 3 to 4 miles (?)	Right ahead, 1½ mile.	Ported	Ported, stopped, & reversed.	182
E. b. S	1½ point starboard bow, 3 miles.	3 points port bow, 200 yards.	None	Ported	183
S.S.E	½ point starboard bow, 1½ mile.	Little on port bow, 1 mile.	None	Ported	184
S.W.	2 points port bow, ¼ mile.	2 points port bow, 2 cables.	Ported	Ported	185
N.N.W	Ahead, ½ a mile	1½ point port bow, ½ mile.	Ported	None, at last starboarded.	186
E.N.E.	2 points starboard bow, 4 miles.	½ point starboard bow, 1 mile.	None	Ported and stopped.	187
N.E. b. E. ¼ E	2 or 3 points starboard bow, 3 miles.	½ point port bow, 1½ mile.	None	Ported and stopped.	188
N. b. W. ¾ W	4 to 6 points starboard quarter, 2½ miles.	1 point port bow, 2½ miles.	None	Ported, stopped, & reversed.	189
W. b. N.	White light, 2 points port bow, 4 miles.	White light, 3 points starboard bow, 4 miles.	Ported, starboarded, then seeing green light ported.	Seeing red light, ported, stopped, and reversed.	190
S.S.E.	Right astern, ¾ mile.	2 points port bow, 2 cables.	None	Ported, kept away	191
S.E. ½ E	2 points starboard quarter, ½ mile.	Right ahead, ¼ mile.	None	Ported	192
N. b. W	2 points port bow, 1 mile.	1½ points port bow, 2 miles.	None	Ported	193
N. b. W	3 points port bow, 1½ mile.	Broad on starboard bow, close.	None	None, kept close luff.	194
E. b. S. ½ S	1 point port bow, 1 mile.	2½ points starboard bow, 1 mile.	Ported	Starboarded, stopped, and reversed.	195
S.W. b. W	1 point starboard bow, 1 mile.	Little on port bow, 1 mile.	Ported, stopped, & reversed.	None	196
N.N.W	Little on starboard bow, 1½ miles.	Broad on starboard bow, 2 miles.	None	Ported, stopped, & reversed.	197
E. b. S. ½ S	2 points abaft starboard beam, 2 cables.	Ahead, 200 yards	Starboarded	Ported, stopped, & reversed.	198
N. b. E	3 points starboard bow, 1 mile.	3 points port bow, ¾ mile.	None	None, at last ported.	199
S.W. b. S	On starboard bow, 2 or 3 miles.	3 points port bow, 1 mile.	None	None, at last ported.	200
W.N.W	1 point port bow, 2 2 miles.	1 point starboard bow, 1 mile.	None, at last starboarded.	Ported	201
S.E. b. S	3 points starboard bow, ¾ mile.	1½ point port bow, at a great distance.	None	Ported	202

SUMMARY OF THE FOREGOING TABLES.

Whole number of cases		202
Cases occurring in daylight		34
Cases occurring in darkness		168
Where the courses were exactly opposite		27
Where the paths of the two ships, if produced, would intersect at an angle of 1 point or less	39	
Where they intersect between 1 and 2 points	40	
		79
Between 2 and 3 points	26	
Between 3 and 4 points	16	
More than 4 points	36	
		78

Doubtful cases 51

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Narrow channel 5

3, 4, 102, 117, 122.

Parallel courses 10

7, 13, 42, 48, 75, 87, 102, 132, 140, 197.

Where port helm was improper 54

1, 2, 7, 9, 12, 13, 14, 32, 41, 42, 44, 45, 47, 48, 49, 53, 54, 57, 58, 62, 63, 65, 75, 81, 82, 85, 87, 90, 91, 94, 99, 102, 105, 109, 115, 120, 121, 122, 132, 133, 134, 137, 143, 146, 169, 173, 175, 180, 182, 187, 189, 190, 197, 202.

Where starboard helm was improper.......................... 13
17, 43, 45, 47, 50, 93, 96, 103, 124, 128, 140, 141, 178.

Where one ship did nothing and the other ported............... 38
1, 2, 9, 12, 13, 29, 37, 42, 44, 46, 53, 54, 57, 71, 81, 82, 85, 91, 94, 99, 111, 117, 125, 126, 133, 143, 149, 167, 169, 170, 175, 187, 189, 196, 197, 199, 200, 202.

Where one ship did nothing and the other starboarded........... 8
17, 96, 103, 124, 141, 153, 164, 178.

Where one ship was stationary................................ 5
1, 29, 103, 143, 175.

No steps taken on either side................................ 4
25, 79, 176, 194.

Where no original risk...................................... 31
1, 2, 7, 12, 13, 32, 41, 42, 43, 49, 58, 63, 65, 75, 81, 82, 85, 87, 94, 96, 119, 132, 134, 137, 140, 146, 180, 182, 187, 197, 201.

PREFACE TO THE THIRD EDITION.

Since the Second Edition of this Pamphlet was printed it has received the official approval of the Admiralty, Board of Trade, and Trinity House, as well as of the French Government; and the construction of Articles 11 and 13 which it advocates has been made positive and binding by Order in Council, an extract from which will be found in Appendix III.

THOMAS GRAY.

Board of Trade, *Sept.* 1868.

PREFACE TO THE SECOND EDITION.

Before the reader turns over this leaf it is necessary that he should impress on his mind this fact:

That in one case only is any reference made in the Regulations to the use of the Port Helm by Steamers, and in one only by Sailing Ships, viz., in Articles 11 and 13, which direct that when two ships, Steam or Sailing, are *meeting* end on, or nearly end on, each is to port.

It may be often proper and necessary to port in cases not mentioned in Articles 11 and 13 of the Regulations. But recollect that if you get into collision by porting, in cases in which the Regulations do not expressly direct the use of the Port Helm, the collision is not the result of any injunction to Port to be found in the Regulations.

The reckless use of Port Helm leads to collision.

T. GRAY.

A FEW REMARKS

RESPECTING

THE RULE OF THE ROAD FOR STEAMSHIPS.

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1. The object of the following remarks is to show that the present rule is simple, sufficient, and intelligible.

The rule is—

a. If two ships under steam are *meeting* end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other. (Article 13.)

b. If two ships under steam are *crossing* so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other. (Article 14.)

2. The rule contained in these two articles is the universal and international rule of the road for steamers. It has been fully discussed, considered, and approved by competent naval men and competent lawyers belonging to the countries and states named below, viz:

Austria.
Argentine Republic.
Belgium.
Brazil.
Bremen.
Chile.
Denmark Proper.
Equator, Republic of the.
France.
Great Britain.
Greece.
Hamburg.
Hanover.
Hawaiian Islands.
Hayti.
Italy.
Lubeck.
Mecklenburg-Schwerin.
Morocco.
Netherlands.
Norway.
Oldenburg.
Peru.
Portugal.
Prussia.
Roman States.
Russia.
Schleswig.
Spain.
Sweden.
Turkey.
United States, for sea-going ships.
United States, for Inland Waters.
Uruguay.

APPLICATION OF THE RULE.

3. It must be remarked that the rule only applies—

a. To ships meeting;

b. To ships crossing;

And, further, that it then applies—

c. Only when there is risk of collision.

4. There are only two positions of danger:

a. Ships meeting (end on, or nearly end on,) and—

b. Ships crossing.

5. The rule does not apply when there is no risk of collision.

6. Every one is unanimous in agreeing that no two ships can come into collision so long as they show each other the same colored light, green to green, or red to red.

7. The rule cannot therefore apply—

a. When a green light is seen anywhere on the starboard side;

b. When a red light is seen anywhere on the port side;

c. Nor can it apply when a red or a green light is seen ahead.

8. There is not the remotest chance of collision in either of the cases above put. It would, therefore, be idle to make rules to define what the ships so situated are to do to prevent collision; and yet the Government have been asked to make such rules.

9. We may ask—

a. Should any rules be made to tell ships what they are to do to keep apart when there is no risk of collision?

The answer is "No;" and the reason is, that there is no use in making unnecessary rules.

b. Should general rules have been made to tell meeting or crossing ships what to do when there is risk of collision?

10. The answer is "Yes;" and the reason is, that ships meeting or crossing on the highway of nations, as well as people and vehicles meeting and crossing on the highways of the country, should know on which side they are to be ordinarily expected to pass each other for mutual convenience and safety.

11. Assuming then—

a. That it is idle to make rules for ships that cannot possibly come into collision if they both keep on their course.

b. That rules for ships that are meeting or crossing so as to involve risk of collision should be made, and should be simple.

12. Are not the existing rules (13 and 14) sufficient?

The answer is "Yes;" the reasons are:

a. That the rules apply only to cases involving risk of collision;

b. That, if attended to, they apply as effectually to those cases as any rules can; and—

c. That they are as simple as they can be.

13. Of course the reader will at once agree that if any rules had to be made for passing ships they should be as follows, viz:

a. Port, if necessary, to a red light ahead, or nearly ahead, or anywhere on your port side.

b. Starboard, if necessary, to a green light ahead, or nearly ahead, or anywhere on your starboard side.

14. But then it has not been thought necessary to put these rules into a legislative enactment, because passing ships do not cross the path of each other, and therefore while they are passing ships they cannot come into collision.

15. And besides, it must be patent to the merest tyro that if A, in Diagram 2, were to port with B 1, 2, or 3, going in the direction indicated by the arrow marked (X,) she must inevitably run to collision and probably to destruction.

16. The following words should be impressed on the mind of every sailor, viz:

So long as you keep a green light opposed to a green light, or a red light opposed to a red light, no collision can happen between passing ships.

STEAMSHIPS MEETING.

17. The existing rule (Article 13) provides that if two steamships are *meeting* end on, or nearly end on, *so as to involve risk of collision*, the helms of both shall be put to port so that each may pass on the port side of the other. See Diagram 1.

18. There would be only one other way to provide for the difficulty, and to prevent collision between ships meeting; and that would be to provide that each shall pass on the starboard side of the other. This would certainly be different from the present rule, but it would be neither more simple nor more effectual. Where is, then, the objection to the existing rule?

19. There is none. As regards ships meeting "end on" no alteration is required.

20. But those who want alteration say that the words "nearly end on" should be omitted from this rule.

Why?

21. If two ships are meeting (each approaching the other) "end on," that is to say, if *both* are running towards each other from opposite ends of one straight line, they must meet each other full in the face like

two railway trains meeting on one line of rails. But, to prevent this, each is to port. If they are *both* meeting *nearly* end on, *i. e.*, nearly on the same straight line, but just off it, why should they not port also?

22. But because two steamships *meeting* are both required by the rule to port, it does not follow that a steamship is to port whenever she sees any light ahead or nearly ahead, *i. e.*, nearly "end on" with her own keel.

23. The rule applies only when *two ships* are meeting each other, and not when a *light* is end on with a *ship*.

24. Some decisions in the Admiralty Court have led to the conclusion that a light is to be considered as being ahead or nearly ahead (*a*) if it is seen ahead; or (*b*) if it is seen anywhere from one to two points on either bow; and there is an impression amongst seafaring men that if a light is seen nearly ahead, the ship showing that light is to be treated as meeting the ship seeing it end on or nearly end on. But this impression cannot be in accordance with the real state of the case.

25. Take as an instance the vessel A, Diagram 2, seeing the green light B^1, B^2, or B^3, ahead or nearly ahead. It will be seen on reference to the Diagram that the steamer showing either of these green lights cannot be meeting A at all; and that, therefore, the ships A and B cannot be meeting end on or nearly end on. B 1, 2, 3, may be going in any of the directions indicated by the arrows, and in any of those directions she must be diverging from the path of A.

26. Now, if the helm of A is ported, instead of avoiding a collision she will court it by running directly across the path of B 1, 2, or 3, as denoted by the direction of some of the arrows. If the helm of A is ported, the ships immediately become crossing ships, and the position of security which is maintained as long as A and B keep their courses, and show to each other their green lights only, is immediately converted into the position of the greatest danger. This is not the intention of the framers of the rules, whatever may be the deductions from some of the legal decisions.

27. Seamen are to be found who port at every light seen ahead, or nearly ahead; but if they port when they should not, for example, with a green light, say two points on their starboard bow, and say they do it because the *light* is nearly ahead or nearly end on with them, that is no fault of the rule, and has no reference to the rule, for the rule does not apply in a case where there is no risk of collision, and there is no risk of collision, as has already been admitted, if a green light is seen ahead or anywhere on the starboard side.

28. The light, it is true, (as will be seen on reference to Diagram 2,) may be end on, or nearly end on, to A; but the ship A and the ship

carrying the light B 1, 2, or 3, cannot be nearly end on with *each other*, and cannot be meeting. This is the whole point. People who port in such a case overlook the fact, pointed out above, that by the rule of the road it is not a *light* end on, or nearly end on, that justifies them in porting; and they also forget that not only the *ship* carrying the light must be end on, but that the ship carrying it as well as the ship seeing it (that is to say, *both* ships) must be *meeting* each other end on or nearly end on.

29. It would be admitted on all hands that the officer in command of C (Diagram 3) who would put his helm a-starboard if he saw a steamer's red light D on his port bow (1, 2, 3), or nearly ahead on the port side, would be doing wrong. There can be no doubt of it. But the rule of the road would not be in fault.

30. If, then, it is wrong for the officer in command of a ship to starboard when he sees a red light in such a position on his port side, is it, as a rule, not equally wrong to port if he sees a green light in such a position on his starboard side?

31. There can be no doubt that it is equally wrong. It would be a grave error to do so, but it would not have the remotest connection with the rule of the road; for the rule does not apply to such a case. The officer in command of the ship, and not the rule, must be blamed in such a case if a collision happens.

STEAMSHIPS CROSSING.

32. In the following observations about crossing ships, it is assumed, for the sake of argument, that the speed of each ship is equal or nearly equal.

33. Steamships *crossing* so as to involve risk of collision always show to each other a different colored light; green to red, and red to green. Unless, therefore, a steamer sees another steamer's green light on her own port side, or another steamer's red light on her own starboard side, there is no danger so far as steamers crossing are concerned.

34. If a steamer E (Diagram 4) see another steamer's red light, F, G, H, or I, anywhere on her own starboard side, the steamer E must know that she may be crossing the path of the steamer carrying the light F, G, H, or I; and if a steamer K (Diagram 5) see a steamer's green light, L, M, N, or O, anywhere on her own port side, the steamer K must know that she may be crossing the path of the steamer carrying the light L, M, N, or O.

35. The light F, G, H, or I, may be on a steam vessel going in any of the directions indicated by the arrows, or in any intermediate direction. If E and F, or E and G, or E and H, or E and I, are both making to one point (crossing), something must be done by the vessel

seeing the red light, or by the vessel seeing the green light, or by both, to prevent collision. One of them must give way. The law meets the case by requiring that "the ship which has the other on her own starboard side shall keep out of the way of the other."

36. The rule is then—

a. If E (Diagram 4) see a red light anywhere on her own starboard side, say at F, G, H, or I, she (E) will know that she and the ship carrying the red light F, G, H, or I, may be crossing. She (E) must keep out of the way of the ship that carries that red light, and let her pass, because, in the words of the rule, the red light is on E's "own starboard side."

b. If K (Diagram 5) see a green light on her own port side, L, M, N, or O, the ship carrying that green light may be crossing K's path; and L, M, N, or O, having K on her own starboard side, must get out of K's way.

37. E and K must also, of course, take any necessary precautions as well, and not come in collision with the other vessel if they can help it.

38. But some persons have suggested that the law should be altered and made to say *how*, in every conceivable case, one crossing vessel shall get out of the way of the other; and those persons find fault because this information is not provided in the existing rules.

39. It has been further suggested that the ship (E, Diagram 4) that is to get out of the way of the other should always be required to starboard, or always be required to port. The answer to this is, that she can starboard under the existing rules, if it is proper to do so, and if starboarding will take her out of the way of the other vessel; but that in some cases she will get in the way, and be wrong if she does not port. If E, who is to keep out of the way of I, were to starboard when I is going in the direction indicated by the arrow I 1, then she, E, would cross the course of I. In the same way, if E were to starboard with the other ships going in the direction of H 1 or G 1, &c., she would probably run them down.

40. On the other hand, E would probably come into collision if she were to port, if the vessel carrying the red light were going in the direction of G 2 or F 2 or F 1.

41. The way for E to avoid collision with 13 is for E to go on straight or to port. To avoid collision with H 3, it is sufficient for E to go ahead straight; and with G 2, certainly *not* to port. To avoid collision with F 1, E must stop, starboard, and reverse if necessary.

42. The elements of uncertainty are—

(*a.*) That the lights F, G, H, and I present the same appearance to E whether the head of vessel is in the direction indicated by the arrows 0 or 1 or 2 or 3 or 4; and, therefore—

b. That E can never know, although she may estimate, the direction of the head of F, G, H, or I.

c. That E can never know the distance of F, G, H, or I. If the lights are unusually dim they will appear to be further off than they really are. If they are unusually bright, or the atmosphere is clear, they will appear to be nearer than they really are.

d. E can never know, although she may estimate, the speed of F, G, H, or I.

43. In short, the elements of direction, distance, and speed, all unknown, and therefore uncertain to E, must be allowed for by E in determining the course she is to take.

44. It is clear that the action in each case must depend upon the necessities of the case, and that the legislature cannot make a rule to say that E shall always go one way or always do one thing. It must be left to the officer in command to do the best under the circumstances of each case; to recollect that his green light opposed to the red light of another vessel is the one position of danger; and, above all, to observe due caution.

WHITE MASTHEAD LIGHT.

45. The masthead or "white" light is not mentioned in the aforegoing remarks. It is, of course, implied throughout that the white light is visible as well as the colored lights.

46. It must be borne in mind that the Regulations require this bright white light to be carried at the masthead of all steamships under weigh, as well as by vessels at anchor.

It must also be borne in mind that the Regulations require the white masthead steamer's light to be of such size and description as to be seen for *five* miles in a clear atmosphere, and that the colored side lights are required to show for *two* miles only.

It follows, therefore, that the white light being carried at the masthead is visible above the horizon sooner than the colored lights which are carried on the sides of the ship, far below the white light, and that, consequently, a white light seen alone may probably not be the white light of a vessel at anchor, but the masthead white light of a steamer in motion, hull down.

It is the duty of the seaman to assume that any light he sees is in the position, or is of the character, likely to be most dangerous to him. It is, therefore, his duty on first seeing a white light alone, not to assume that it is the light of a vessel at anchor, but to act as if it were the masthead light of a steamer in motion, and to keep a good lookout.

GENERAL RULE FOR STEAMSHIPS MEETING, AND PARTICULAR RULE FOR STEAMSHIPS CROSSING.

47. The *general* rule of the road for steamers is precisely the same as the general rule of the pavement for foot passengers in London, and in all our large towns, viz., that in all ordinary cases two steamships, like two pedestrians, meeting face to face, or "end on, or nearly end on," so as to involve risk of collision shall port, that is to say, shall keep to the right, so that each may pass on the port (left) side of the other. Nothing can be more simple than this; but the man who will persist in crossing right over the pavement if, when proceeding along the left-hand side, he see another man coming along to his own right on the other side, cannot justify his proceeding by the rule. He will obviously get in the way of the other.

48. The *particular* rule of the road for steamers is, that if they are crossing, then the steamer E, that has another steamer F, G, H, or I, on her own right-hand side, shall get out of the way of F, G, H, or I. E is to get out of the way of F, G, H, or I. This, one would think, is plain. It would not do to say E is always to go one way, for E would often actually get into the way of F, G, H, and I, by going always to the left, or always to the right. The Diagram 4 shows, as has already been explained, that E can sometimes only get out of the way by going to the right, sometimes only by going to the left, sometimes by going straight on, and sometimes only by stopping and reversing.

49. This, as has already been shown, the present rule provides for, by saying that E shall get out of the way of F, G, H, and I, leaving it to E to do it in the easiest and best way she can under the special circumstances of each case. What more is possible where a positive rule, although it might possibly prevent collisions between vessels crossing in certain positions, would inevitably cause collisions in other positions?

CONCLUSION.

50. The very great majority of collisions happen through bad lookout, and neglect to show lights. No rule of the road can meet these cases.

51. Many collisions are caused through the fixed belief of some sailors that it is right, under the present rule of the road, to port under all circumstances. This is, as has been shown above, an entire misapprehension of the rule. The rule is not to blame for these collisions.

52. Many collisions are caused through neglect, misapplication, and utter ignorance of the rule of the road.

No rules, however perfect, can meet these cases.

53. The rules are good, but some seamen have failed to make themselves acquainted with them, or have not acted on them when they ought, or as they ought. The legislature cannot make careless people

careful, nervous people strong, ignorant people wise, dull people bright, or sleeply people wakeful. Let them enact rules forever, collisions will continue to happen through ignorance, bad lookout, and carelessness, just in the same way that ships will continue to be wrecked and stranded from the same causes, and from neglect of the lead, and other omissions.

54. The legislature have done their part. They have made plain, simple, effective rules. The seaman must now do his part in carrying these rules into practice, in the manner and in the spirit intended by the framers; and the advocate and jurist must do his part by investigating and understanding them. It is wise to leave the rules as they are, and to explain the meaning of the framers of the rules by suitable and proper diagrams if necessary, rather than on the one hand, to add to them, and make them so refined as even to puzzle those who do understand them now; or, on the other hand, to aim at uniformity by requiring ships to port or starboard, without any necessity, under all circumstances, and at all risks.

APPENDIX I.

Tables 15 *and* 16 *of the Wreck Register for* 1865 *give the following results as regards the causes of collisions for seven years.*

Number of collisions from the following preventible causes:	
Bad lookout, neglecting to carry proper lights, neglect or misapplication of rules, error of pilot, want of seamanship, general negligence and want of caution, and error in judgment	1,566
Number of collisions from accident:	
Parting cables, &c., missing stays, anchoring in foul berth, want of sea room, thick and foggy weather, inevitable accident	702
Number of collisions from causes unknown	76
Total collisions in seven years	2,344

Table 18 *of the Wreck Register for* 1865 *gives the following result for seven years, showing the state of the weather when collisions happened.*

With an atmosphere more or less thick or unfavorable, viz:	
(1) dark, (2) very dark, (3) hazy, (4) thick and foggy	665
With a good atmosphere, viz:	
(1) clear and fine (936,) (2) dark and clear, (3) cloudy (284)	1,220
Unknown or squally	459
Total collisions in seven years	2,344

APPENDIX II.

INTERNATIONAL STEERING AND SAILING RULES.

Reprinted from the Order in Council of the 9*th January*, 1863.

REGULATIONS FOR PREVENTING COLLISIONS AT SEA, ETC.

PRELIMINARY.

Article 1. In the following rules, every steamship which is under sail, and not under steam, is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

RULES CONCERNING LIGHTS.

Art. 2. The lights mentioned in the following articles, numbered 3, 4, 5, 6, 7, 8, and 9, and no others, shall be carried in all weathers, from sunset to sunrise.

LIGHTS FOR STEAMSHIPS.

Art. 3. Sea-going steamships when under weigh shall carry—

(*a.*) *At the Foremast Head*, a bright white light, so fixed as to show an uniform and unbroken light over an arc of the horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the ship, viz., from right ahead to two points abaft the beam on either side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles.

(*b.*) *On the Starboard Side*, a green light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*c.*) *On the Port Side*, a red light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to two points abaft the beam on the port side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

(*d.*) The said green and red side lights shall be fitted with inboard screens, projecting at least three feet forward from the light, so as to prevent these lights from being seen across the bow.

LIGHTS FOR STEAM TUGS.

Art. 4. Steamships, when towing other ships, shall carry two bright white masthead lights vertically, in addition to their side lights, so as to distinguish them from other steamships. Each of these masthead lights shall be of the same construction and character as the masthead lights which other steamships are required to carry.

LIGHTS FOR SAILING SHIPS.

Art. 5. Sailing ships under weigh or being towed, shall carry the same lights as steamships under weigh, with the exception of the white masthead lights, which they shall never carry.

EXCEPTIONAL LIGHTS FOR SMALL SAILING VESSELS.

Art. 6. Whenever, as in the case of small vessels during bad weather, the green and red lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for instant exhibition; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side, nor the red light on the starboard side.

To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the color of the light they respectively contain, and shall be provided with suitable screens.

LIGHTS FOR SHIPS AT ANCHOR.

Art. 7. Ships, whether steamships or sailing ships, when at anchor in roadsteads or fairways, shall exhibit, where it can best be seen, but at a height not exceeding 20 feet above the hull, a white light, in a globular lantern of eight inches in diameter, and so constructed as to show a clear, uniform, and unbroken light visible all round the horizon, and at a distance of at least one mile.

LIGHTS FOR PILOT VESSELS.

Art. 8. Sailing pilot vessels shall not carry the lights required for other sailing vessels, but shall carry a white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light every 15 minutes.

LIGHTS FOR FISHING VESSELS AND BOATS.

Art. 9. Open fishing boats and other open boats shall not be required to carry the side lights required for other vessels; but shall, if they do not carry such lights, carry a lantern having a green slide on the one side and a red slide on the other side; and, on the approach of or to other vessels, such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side.

Fishing vessels and open boats when at anchor, or attached to their nets and stationary, shall exhibit a bright white light.

Fishing vessels and open boats shall, however, not be prevented from using a flare-up in addition, if considered expedient.

RULES CONCERNING FOG-SIGNALS.

Art. 10. Whenever there is fog, whether by day or night, the fog-signals described below shall be carried and used, and shall be sounded at least every five minutes, viz:

(*a.*) Steamships under weigh shall use a steam whistle placed before the funnel not less than eight feet from the deck.

(*b*.) Sailing ships under weigh shall use a fog horn.

(*c*.) Steamships and sailing ships when not under weigh shall use a bell.

TWO SAILING SHIPS MEETING.

Art. 11. If two sailing ships are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

TWO SAILING SHIPS CROSSING.

Art. 12. When two sailing ships are crossing so as to involve risk of collision, then, if they have the wind on different sides, the ship with the wind on the port side shall keep out of the way of the ship with the wind on the starboard side; except in the case in which the ship with the wind on the port side is close-hauled and the other ship free, in which case the latter ship shall keep out of the way; but if they have the wind on the same side, or if one of them has the wind aft, the ship which is to windward shall keep out of the way of the ship which is to leeward.

TWO SHIPS UNDER STEAM MEETING.

Art. 13. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, the helms of both shall be put to port, so that each may pass on the port side of the other.

TWO SHIPS UNDER STEAM CROSSING.

Art. 14. If two ships under steam are crossing so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.

SAILING SHIP AND SHIP UNDER STEAM.

Art. 15. If two ships, one of which is a sailing ship and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing ship.

SHIPS UNDER STEAM TO SLACKEN SPEED.

Art. 16. Every steamship when approaching another ship so as to involve risk of collision shall slacken her speed, or, if necessary, stop and reverse; and every steamship shall, when in a fog, go at a moderate speed.

VESSELS OVERTAKING OTHER VESSELS.

Art. 17. Every vessel overtaking any other vessel shall keep out of the way of the said last-mentioned vessel.

CONSTRUCTION OF ARTICLES 12, 14, 15, AND 17.

Art. 18. Where by the above rules one of two ships is to keep out of the way, the other shall keep her course subject to the qualifications contained in the following article.

PROVISO TO SAVE SPECIAL CASES.

Art. 19. In obeying and construing these rules due regard must be had to all dangers of navigation; and due regard must also be had to any special circumstances which may exist in any particular case rendering a departure from the above rules necessary in order to avoid immediate danger.

NO SHIP, UNDER ANY CIRCUMSTANCES, TO NEGLECT PROPER PRECAUTIONS.

Art. 20. Nothing in these rules shall exonerate any ship, or the owner or master or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

APPENDIX III.

Extract from Order in Council of 30*th July*, 1868, *containing explanation of Articles* 11 *and* 13.

The said two articles, numbered 11 and 13 respectively, only apply to cases where ships are meeting end on, or nearly end on, *in such a manner as to involve risk of collision.* They, consequently, do not apply to two ships which must, if both keep on their respective courses, pass clear of each other.

The only cases in which the said two articles apply are when each of the two ships is end on, or nearly end on, to the other—in other words, to cases in which, *by day*, each ship sees the masts of the other in a line, or nearly in a line, with her own; and, *by night*, to cases in which each ship is in such a position as to see both the side lights of the other.

The said two articles do not apply, *by day*, to cases in which a ship sees another *ahead* crossing her own course; or, *by night*, to cases where the red light of one ship is opposed to the red light of the other; or where the green light of one ship is opposed to the green light of the other; or where a red light without a green light, or a green light without a red light, is seen ahead; or where both green and red lights are seen anywhere but ahead.

APPENDIX IV.

Provisions respecting Lights, Fog-signals, and Sailing Rules contained in the Merchant Shipping Act, 1862.

ENACTMENT OF REGULATIONS CONCERNING LIGHTS, FOG-SIGNALS, AND SAILING RULES IN SCHEDULE, TABLE (C.)

25. On and after the first day of June, one thousand eight hundred and sixty-three, or such later day as may be fixed for the purpose by Order in Council, the regulations contained in the table marked (C) in the Schedule hereto shall come into operation, and be of the same force as if they were enacted in the body of this act; but Her Majesty may, from time to time, on the joint recommendation of the Admiralty and the Board of Trade, by Order in Council, annul or modify any of the said regulations, or make new regulations in addition thereto or in substitution therefor; and any alterations in or additions to such regulations made in manner aforesaid shall be of the same force as the regulations in the said Schedule.

REGULATIONS TO BE PUBLISHED.

26. The Board of Trade shall cause the said regulations, and any alterations therein or additions thereto hereafter to be made, to be printed, and shall furnish a copy thereof to any owner or master of a ship who applies for the same; and production of the Gazette in which any Order in Council containing such regulations, or any alterations therein or additions thereto, is published, or of a copy of such regulations, alterations, or additions, signed or purporting to be signed by one of the secretaries or assistant secretaries of the Board of Trade, or sealed or purporting to be sealed with the seal of the Board of Trade, shall be sufficient evidence of the due making and purport of such regulations, alterations, or additions.

OWNERS AND MASTERS BOUND TO OBEY THEM.

27. All owners and masters of ships shall be bound to take notice of all such regulations as aforesaid, and shall, so long as the same continue in force, be bound to obey them, and to carry and exhibit no other lights and to use no other fog-signals than such as are required by the said regulations; and in case of willful default, the master, or the owner of the ship, if it appear that he was in such fault, shall, for each occasion upon which such regulations are infringed, be deemed to be guilty of a misdemeanor.

BREACHES OF REGULATIONS TO IMPLY WILLFUL DEFAULT OF PERSON IN CHARGE.

28. In case any damage to person or property arises from the non-observance by any ship of any regulation made by or in pursuance of this act, such damage shall be deemed to have been occasioned by the willful default of the person in charge of the deck of such ship at the time, unless it is shown to the satisfaction of the court that the circumstances of the case made a departure from the regulation necessary.

IF COLLISION ENSUES FROM BREACH OF THE REGULATIONS, SHIP TO BE DEEMED IN FAULT.

29. If in any case of collision it appears to the court before which the case is tried that such collision was occasioned by the non-observance of any regulation made by or in pursuance of this act, the ship by which such regulation has been infringed shall be deemed to be in fault, unless it is shown to the satisfaction of the court that the circumstances of the case made a departure from the regulation necessary.

INSPECTION FOR ENFORCING REGULATIONS.

30. The following steps may be taken in order to enforce compliance with the said regulations; that is to say—

(1.) The surveyors appointed under the third part of the principal act, or such other persons as the Board of Trade may appoint for the purpose, may inspect any ships for the purpose of seeing that such ships are properly provided with lights and with the means of making fog-signals in pursuance of the said regulations, and shall for that purpose have the powers given to inspectors by the 14th section of the principal act.

(2.) If any such surveyor or person finds that any ship is not provided, he shall give to the master or owner notice in writing, pointing out the deficiency, and also what is, in his opinion, requisite in order to remedy the same.

(3.) Every notice so given shall be communicated in such manner as the Board of Trade may direct to the collector or collectors of customs at any port or ports from which such ship may seek to clear, or at which her transire is to be obtained; and no collector to whom such communication is made shall clear such ship outwards, or grant her a transire, or allow her to proceed to sea, without a certificate under the hand of one of the said surveyors or other persons appointed by the Board of Trade as aforesaid, to the effect that the said ship is properly provided with lights and with the means of making fog-signals in pursuance of the said regulations.

RULES FOR HARBORS UNDER LOCAL ACTS TO CONTINUE IN FORCE.

31. Any rules concerning the lights or signals to be carried by vessels navigating the waters of any harbor, river, or other inland navigation, or concerning the steps for avoiding collision to be taken by such vessels, which have been or are hereafter made by or under the authority of any local act, shall continue and be of full force and effect, notwithstanding anything in this act or in the schedule thereto contained.

IN HARBORS AND RIVERS WHERE NO SUCH RULES EXIST THEY MAY BE MADE.

32. In the case of any harbor, river, or other inland navigation for which such rules are not and cannot be made by or under the authority of any local act, it shall be lawful for Her Majesty in Council, upon application from the harbor trust or body corporate, if any, owning or exercising jurisdiction upon the waters of such harbor, river, or inland navigation, or, if there is no such harbor trust or body corporate, upon application from persons interested in the navigation of such waters, to make rules concerning the lights or signals to be carried, and concerning the steps for avoiding collision to be taken by vessels navigating such waters; and such rules, when so made, shall, so far as regards vessels navigating such waters, have the same effect as if they were regulations contained in Table (C) in the schedule to this act, notwithstanding anything in this act or in the schedule thereto contained.

IN CASE OF COLLISION ONE SHIP SHALL ASSIST THE OTHER.

33. In every case of collision between two ships it shall be the duty of the person in charge of each ship, if and so far as he can do so without danger to his own ship and crew, to render to the other ship, her master, crew, and passengers, (if any,) such assistance as may be practicable and as may be necessary in order to save them from any danger caused by the collision.

In case he fails so to do, and no reasonable excuse for such failure is shown, the collision shall, in the absence of proof to the contrary, be deemed to have been caused by his wrongful act, neglect, or default; and such failure shall also, if proved upon any investigation held under the third or the eighth part of the principal act, be deemed to be an act of misconduct or a default for which his certificate (if any) may be canceled or suspended.

RULE OF THE ROAD FOR STEAMERS.

IN FOUR VERSES.

BY THOMAS GRAY.

REPRINTED BY BUREAU OF NAVIGATION.

1. *Two Steamships meeting end on, or nearly end on:*

Meeting Steamers do not dread
When you see three Lights ahead!
Port your helm and show your *Red*.

2. *Two Steamships passing:*

For Steamers passing you should try
To keep this maxim in your eye:
Green to Green—or, Red to Red—
Perfect safety—go ahead!

3. *Two Steamships crossing:*

This is the real position of danger.

The Steamship that has the other on her own Starboard side shall keep out of the way of the other.

There is nothing for it but good lookout, caution, and judgment.

If to Starboard Red appear,
'Tis your duty to keep clear:
Act as judgment says is proper—
Port—or Starboard—back—or, stop her!
But when on your *Port* is seen
A Steamer with a light of Green,
There's not so much for you to do—
The *Green* light must keep clear of you.

4. *All ships must keep a good lookout, and Steamships must stop and go astern, if necessary.*

Both in safety and in doubt
Always keep a good lookout;
Should there not be room to turn,
Stop your ship, and go astern.

RULE OF THE ROAD;

BEING

AIDS TO MEMORY, IN FOUR VERSES.

BY THOMAS GRAY.

[These verses are mere aids to memory, and must in no case supersede a careful study of the authentic Regulations.]

◆

1. *Two Steamships meeting:*

When both side lights you see ahead—
Port your helm, and show your **Red**.

2. *Two Steamships passing:*

Green to **Green**—or, **Red** to **Red**—
Perfect safety—go ahead!

3. *Two Steamships crossing:*

Note.—This is the position of greatest danger; there is nothing for it but good lookout, caution, and judgment.

If to your starboard **Red** appear,
It is your duty to keep clear;
To act as judgment says is proper—
To Port—or Starboard—Back—or, Stop her!
But when upon your Port is seen
A Steamer's starboard light of **Green**,
There's not so much for you to do,
For **Green** to port keeps clear of you.

4. *All Ships must keep a good lookout, and Steamships must stop and go astern, if necessary.*

Both in safety and in doubt
Always keep a good lookout;
In danger, with no room to turn,
Ease her!—Stop her!—Go astern!

October 14, 1867.

ADDENDUM.

AN ACT to amend the act entitled "An act further to provide for the safety of the lives of passengers on board of vessels propelled in whole *or* in part by steam, to regulate the salaries of steamboat inspectors, and for other purposes," approved July [25, 1866] twenty-five, eighteen hundred and sixty-six.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section nine of the act entitled "An act to amend the act entitled 'An act further to provide for the safety of the lives of passengers on board of vessels propelled in whole or in part by steam, to regulate the salaries of steamboat inspectors, and for other purposes,'" approved July twenty-five, eighteen hundred and sixty-six, be, and the same is hereby, amended so as to read as follows:

Sec. 9. *And be it further enacted,* That all vessels navigating the *baqs,* [bays,] inlets, rivers, harbors, and other waters of the United States, except vessels subject to the jurisdiction of ~~a~~ foreign power and engaged in foreign trade, and not owned in whole or in part by a citizen of the United States, shall be subject to the navigation laws of the United States; and all vessels propelled ~~in~~ whole or in part by steam, and navigating as aforesaid, shall also be subject to all rules and regulations consistent therewith, established for the government of steam vessels in passing, as provided in the twenty-ninth section of an act relating to steam vessels, approved the thirtieth day of August, eighteen hundred and fifty-two. And every sea-going steam vessel now subject, or hereby made subject, to the navigation laws of the United States, and to the rules and regulations aforesaid, shall, when under way, except upon the high seas, be under the control and direction of pilots licensed by the inspectors of steam vessels; vessels of other countries and public vessels of the United States only excepted: *Provided, however,* That nothing in this act, or in the act of which it is amendatory, shall be construed to annul or affect any regulation established by the existing law of any State requiring vessels entering or leaving a port in such State to take a pilot duly licensed or authorized by the laws of such State, or of a State situate upon the waters of the same port.

Approved February 25, 1867.

Diagram 1.

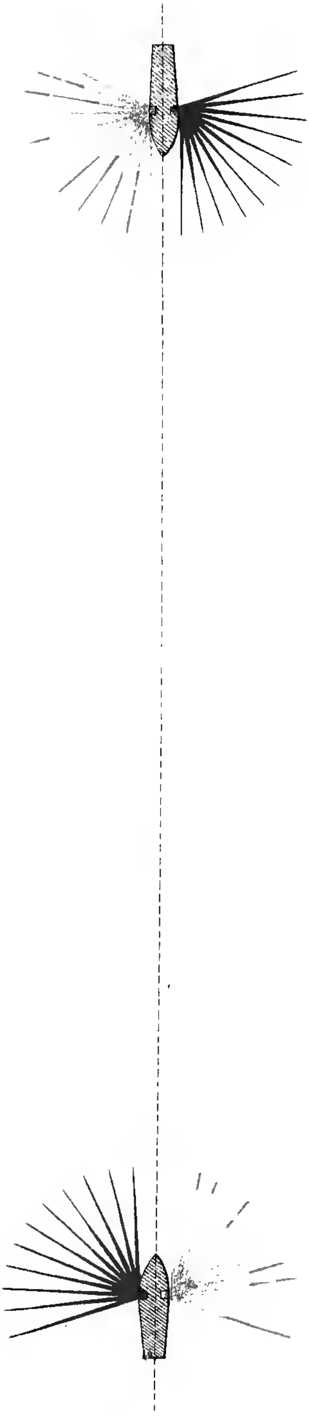
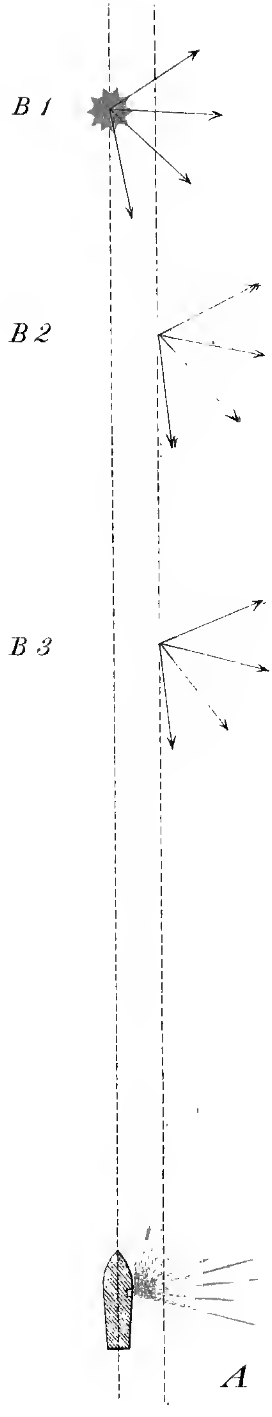


Diagram 2.



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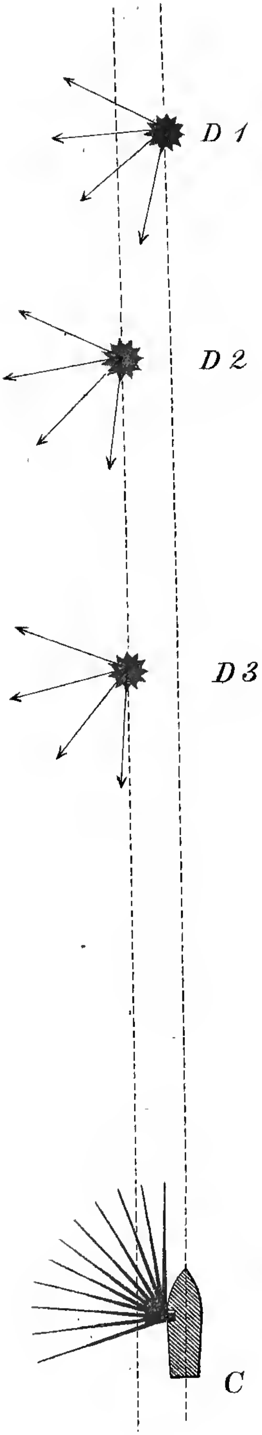

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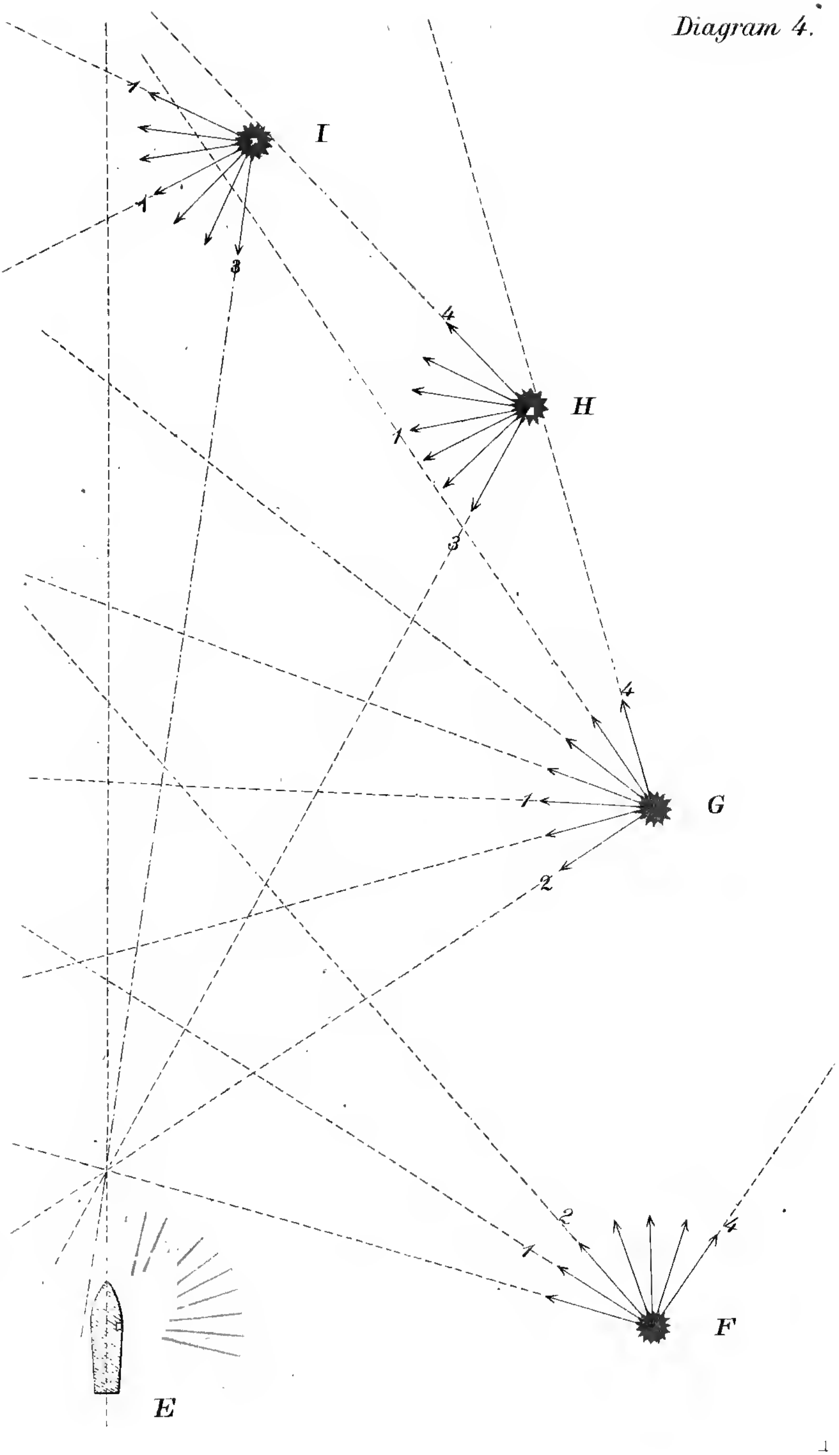

Diagram 5.